Tongues on Fire: On the Origins and Transmission of a System of Tongue Diagnosis

Nancy Holroyde-Downing

University College London

A Dissertation Submitted to the
Faculty of University College London
In Partial Fulfilment of the Requirements for the
Degree of Doctor of Philosophy in History
in the Department of History

2017

I, Nancy Holroyde-Downing, confirm that the work presented in this thesis is my own.
Where information has been derived from other sources,
I confirm that this has been indicated in the thesis.

Abstract

Tongues on Fire: The Origins and Development of a System of Tongue Diagnosis

This dissertation explores the origins and development of a Chinese diagnostic system based on the inspection of the tongue, and the transmission of this practice to Europe in the late 17th century. Drawing on the rich textual history of China, I will show that the tongue is cited as an indicator of illness or a portent of death in the classic texts of the Han dynasty, but these references do not amount to a system of diagnosis. I will argue that the privileging of the tongue as a diagnostic tool is a relatively recent occurrence in the history of Chinese medicine.

Paying particular attention to case records kept by physicians from the Han dynasty (206 BCE–220 CE) to the Qing dynasty (1644–1911), I will show that an increasing interest in the appearance of the tongue was specifically due to its ability to reflect the presence and intensity of heat in the body. Tongue inspection's growing pervasiveness coincided with an emerging discourse among Chinese physicians concerning the relative usefulness of *shang-han* 傷寒 (Cold Damage) or *wenbing* 溫病 (Warm Disease) theories of disease progression.

With the establishment of global trade routes in the 16th and 17th centuries the transmission of knowledge, objects and practices from China to Europe was facilitated. I will argue that among the various medical practices of China that fascinated European audiences, tongue diagnosis, unlike pulse diagnosis, was able to stand outside the constraints of Chinese medical theory in its transmission to Europe.

Contents

Abstract 2
Acknowledgements 7

1 Introduction 9
The Physician in China 12
Chinese Medicine through Western Eyes 17
The Search for the Development of Tongue Diagnosis 22
The Tongue Images Appear 24
A Brief Textual History 24
Epidemics and the Search for Effective Treatment 27
Tongue Inspection Emerges as an Illustrated Aspect of Diagnosis 28
The Tongue's Rise to Prominence 31
Tongue Texts Become Part of Medical Compilations 37
Proliferation of Tongue Texts During the Qing Dynasty 38
Tongue Diagnosis Becomes More Comprehensive 38
Observation, Illustration, and Chinese Tongues in Europe 40
Chapter Outline 42

2 Textual Evidence of Tongue Inspection in Early Writings 45
Han Texts 45
Attributed Writing 53
A Brief Overview of Early Recorded Cases 57
Beyond the Han to the Song 58
The Jin-Yuan Period and Innovation 61
Brief Descriptions of the Four Currents of the Jin-Yuan Masters 62
The Ming 明 Dynasty (1368–1644) 64
Who Were the Ming Physicians? 67
The Adaptations of Medical Texts 69
The Development of *Wenbing* 溫病 (Warmth Factor Disease) 70
New Diagnostic Thinking about Febrile Illness 72
Roots and Branches 73

3 What Does the *Aoshi shanghan jinjing lu* 敖氏傷寒金鏡錄 Tell Us? 75

Section 1: Translation of the *Yuan Aoshi Shanghan jinjing lu* 元敖氏傷寒金鏡錄 (The Yuan Scholar Ao's Golden Mirror of Cold Damage) 75

Section II: Discussion of the *Jinjing Lu* 87

Description of the *Jinjing Lu* 87

Questions about Images, and Answers they Provide 90

A Question of Colour 93

Nuances and Definitives 102

Beyond the *Shanghan lun*: Innovation 104

Shanghan Recipes and Beyond 106

4 Case Record Beginnings 109

Introduction 109

Section 1 110

Han Dynasty Medical Record Keeping and the Beginnings of Case Records 110

Case Records and Clinical Norms 112

The Early Recording of Medical Cases 113

The First Case Record Collection 114

Chunyu Yi's Case Number Four 118

Section II 122

Record Keeping Post-Han to Tang 122

Record Keeping in the Song (960–1278) 123

Xu Shuwei and *Shanghan* Cases 124

Textual Debut of the Discrimination of Tongue Coatings 126

5 The Case Records and the Physicians 131

Introduction 131

Section 1: Physicians and Early Ming Case Records 133

Hierarchies in Medicine 136

Variations and Constancies in Recording Cases 137

The Tongue Images Reappear 138

Xue Ji and his Publication of the *Jinjing lu* 139

Wang Kentang and a Further Publication of the *Jinjing lu* 142

Case Record Examples of Two Ming Physicians 143

Section II: Encyclopaedic Collections of Case Records 150
Introduction 150
Case Records to Encyclopaedias 151
The *Mingyi lei'an* 151
Section III: It's All About Heat 162
From Shared Beginnings to Separate Categories 164
Ye Tianshi 葉天士 (1666–1745) 166
Tongue Inspection in Ye Tianshi's Case Records 168
Tongue Occurrences and Distribution in Ye Tianshi's *Lizheng zhinan yi'an* 175
Wu Jutong 吳鞠通 (1758–1836) 177

6 Transmission of Chinese Medicine to Europe 183
The VOC, Jesuit Scholars, and the Transmission of Texts 186
The Jesuits, the Physicians, and the Publications 189
Beyond the *Specimen* 191
European Medical Practice and Chinese Diagnostic Techniques 192
European Diagnostics in the 17th and 18th Centuries 192
Out with the Old and In with the New: Western Medicine's Turn from Humouralism 194
What Could Be Seen 197
The Form of a 17th-Century Clinical Encounter 198
The Pulse in Translation 200
The Tongue Treatise 202
A Useful Diagnostic Guide or an Interesting Curiosity 203
Fevers, Tongues and Thomas Sydenham 206
The Tongue in 18th-Century Medical Writing 208
19th-Century Expansion of the Tongue's Usefulness 211
New Writings on the Tongue 212
The Mapping of Organs onto the Tongue in Western Medicine 216
The Lumleian Lecture of 1888 220
Conclusions 222

7 Conclusion 227

8 Bibliography 231
Primary Sources 231
Secondary Sources 239

Dedicated to Kung Chingling 孔慶齡, Ruth Stratton Cummins

and Yvonne Pappenheim

Healers

Acknowledgements

I am keenly aware that the research that has gone into this dissertation would not be possible without the input from historians and scholars of varied disciplines, both contemporary and in the past. They are far too numerous to mention individually here, but their knowledge and expertise stands out in every reference and I am grateful to them all.

An amnesiac attention towards the rest of life accompanies a focus on a dissertation. Heartfelt thanks then is due to all those who have 'picked up the pieces' for me in its wake. Thanks is particularly due to my husband, David, who not only made do with less than his due for years, but patiently read through each of my chapters giving invaluable insights. All doctoral students have supervisors, but I am quite certain that mine have been extraordinary. Andrew Wear has patiently questioned, instructed, commented and invariably pointed me in the right direction as I struggled to come to grips with European medical history, of which I knew nothing and he knows a fortune. Vivienne Lo has redefined incomparable. We have discussed Chinese traditional medicine and this dissertation at nearly all the hours of the clock, and in a kaleidoscope of places, including Library archives and foot massage parlors of Beijing, New York City cafes and the Staten Island Ferry, as well as in the treasure troves of the Needham Research Institute in Cambridge and the Wellcome Library in London. She has been encouraging and helpful at every stage of this endeavor, and it is not a figure of speech to say that without her help and guidance, this dissertation would never have seen fruition.

There are friends and colleagues to whom I am particularly indebted. Di Lu, Dolly Yang, Zhang Zhi and Kelly Sun have all given encouragement and their precious time to help me understand the intricacies and beauty of the Chinese language. Di Lu in particular has provided texts that had eluded all my efforts in searching. Whatever eloquence there might be in my translations is entirely due to their guidance. The friendship of David Dear in London and Beijing deserves mention, as we shared dark thoughts of 'dissertation incompletion' and yet carried on. Penelope Barrett and Michael Stanley-Baker have generously shared their considerable knowledge of China, and it has been my good fortune to listen to the presentations of the China Studies reading group at UCL. My exploration of tongue inspection's transmission from China to Europe owes a great deal to Hal Cook for bringing the Cleyer manuscript to my attention, and to Vivian Nutton for sharing his immense knowledge of diagnostics in Greek medicine. Thanks is also due to Hilary Wilson, whose French language skills helped to guide me through the medical archives at the Sorbonne in Paris, Helga Satzinger who read through German diagnostic manuals with me in the Wellcome Library, and to Volker Scheid, scholar physician, who has shared his expertise and laughingly once said to me: 'just keep reading, you'll learn a lot'. Several physicians in Beijing helped me negotiate archives, understand medical texts, and took me to observe medical practitioners

in Beijing's hospitals and clinics. Three in particular are He Wei 何偉, Ji Zhenghan 纪征瀚, and Wang Ping 王品.

I owe a joyful debt to Xun Zhou, who introduced me to Beijing's beauty and hidden treasures after my arrival, took me to meet many lovely 'Beijingers', and who shared her time and lovely son Alex with us during a memorable Christmas in France. Joy came also from the Jazz trumpet of Jo Re'em.

Thanks indeed to Josephine Turquet for bearing with me, even across an ocean, to help get this dissertation in shape.

It gives me great pleasure to express my love and gratitude to Kung Chingling 孔慶齡, my teacher and friend, who for eight years shared her wisdom and knowledge of Chinese medicine with me. I cannot thank her enough for those years in which I was able to observe a true master of the arts of acupuncture, herbal medicine and massage.

While many people have had input into this dissertation, all errors are entirely my own.

Finally, a thank you to my son, Sacha, for never failing to put a smile in my heart.

Chapter 1

Introduction

'Remembering our past, carrying it around with us always, may be the necessary requirement for maintaining, as they say, the wholeness of the self.' Milan Kundera[1]

This dissertation will upset traditional histories of tongue diagnosis in China and Europe by arguing that the tongue was not an integrated feature of Chinese medicine until at least the Jin-Yuan (1115–1368) dynasty, and that the practice of tongue inspection did not flourish in Europe until after its introduction as a diagnostic system from a Chinese source in the 17th century. In comparison to pulse diagnosis, a technique that was fully integrated into classical Chinese medicine from the late Han dynasty (202 BCE–220 CE), diagnosis through the inspection of the tongue has a relatively recent history. I will trace the appearance of tongue diagnostic texts as an innovation in the textual history of Chinese medicine, as well as their subsequent increase in number and popularity. This textual innovation was stimulated by identifiable changes in the social and economic culture of China from the Song (960–1279) to the Qing (1644–1911) dynasties that had a major impact upon medicine. Tongue inspection is evidenced as a local north Chinese marginal practice of the ancient world, was systematised in early modern times and become a global diagnostic technique of the 20th and 21st centuries.

I will argue that the principal factor propelling the inspection of the tongue to a diagnostic tool of major importance was innovative intellectual responses to the practical demands for treating illness during waves of epidemiological crises in China. Innovative theories that arose in medicine, particularly around understandings of the contraction and progression of febrile disease following the Song dynasty, stimulated both increased attention to issues of bodily heat, and increasing notice of the manifestation of this heat in the appearance of the tongue. We will see in Chapter 5 that renowned physicians of the Ming (1368–1644) and Qing dynasties devoted ever more attention to the diagnostic possibilities of the tongue's appearance.

During the same period, a new and burgeoning class of medical practitioners whose scholarly study of medicine was accompanied by scant clinical experience was faced with the need to rapidly treat acute illness. Such practitioners sought 'quick and easy' responses to the critical medical environment. They discovered one solution in a practice-oriented text that combined diagnostic image with treatment directive providing an attractive tool in clinical practice. The changes that were occurring in societal structure and culture in late imperial

1 Kundera, 1999, p.43.

China altered the ways in which physicians learned and practiced medicine[2], and in turn shaped a medical environment in which image-based texts would be avidly received.

To elucidate these changes in medical practice and document the increasing diagnostic attention being paid to tongue appearance over two millennia, I will focus on two aspects of Chinese medicine's textual history, namely the published case records of physicians, and the creation of encyclopaedic compilations of case records of eminent physicians. Although the earliest extant record of a physician recording his cases comes to us from the Han dynasty, the case record as a discrete textual genre of medical writing was not established until the Ming dynasty. In Chapters 4 and 5 we will also see that there was innovation in both the structure and the content of case records from the Ming to the Qing dynasty, and that these provide a window onto the social and cultural changes that were occurring in China at that time.[3]

This dissertation will also contribute to a growing body of scholarship that transcends a Eurocentric history of medicine in China, which grew out of the cultural differentiation that occurred during the early encounters between China and the West, in which each was seen as distinct, dissimilar and often oppositional. Benjamin Hobson (1816–73), a British medical missionary, elucidated a notion of this binary difference when, positioning Western medicine as reflecting a modern and vital tradition, he described Chinese medicine as 'what it has been for many centuries past'.[4] In contrast, my research supports Nathan Sivin's assertion, that '…change has been the norm in [China's] traditional medicine over its entire history. The evolution of practices and concepts has been a neglected topic in Western writing on the history of Chinese medicine.'[5]

Far from seeing an Eastern and Western tradition as having separate histories and characteristics, this dissertation is fundamentally concerned with innovation, and an essential part of the history of tongue diagnosis involves transnational exchange. What took place as local medical practices were translated for a new audience far away from their original cultural embedding. This exchange took place along trade routes, comprised of both overland caravans and maritime merchant vessels.[6]

---

2 The static number of civil service posts available, the growing numbers of the literate elite, the neo-Confucian advocacy of filial piety, the scholarly aspect of medical study and the unprecedented availability of published medical writings, all coalesced to reframe medicine as a career worthy of the gentry. As unprecedented numbers of gentry pursued this newly commendable career path, aspiring physicians struggled to find experienced teachers, and the medical *auto-didact* emerged.

3 A historiography of the case record in China, in both medical and legal contexts, is presented in Furth *et al.*, 2007, and Grant, 2003 offers an analysis of what is arguably the first collection of the medical case records of an individual Chinese physician to be compiled during his lifetime.

4 Hobson, 1860, pp.400–402.

5 Sivin, 1987, p.xx.

6 Scholarly writings on trade routes between Asia and Europe across the centuries are numerous. For a selection, see Golbers, 2012; Ptak, 1998; Chaudhuri, 1990, pp.138–148; Kearney, 2004, pp.1–102; Bayly in Hopkins,2002, pp.47–73; Ballantyne in Hopkins, 2002, pp.115–140; Whitfield, 2004, Cook, 2007, pp.123–128, Lightman *et al.*, (eds), 2013, and Galli, 2017, pp.3–8. Maps illustrating Overland routes between Asia and Europe during the age of discovery and maps of me-

There is a temptation to see these trade routes as linear, moving people, commodities and knowledge east and west, north and south. Like ocean currents whose circulations are driven in changing directions and volumes, and in response to climatic cycles of repetitions and vagaries[7], currents of knowledge transmission respond to various social, economic and cultural drivers. While we will see that innovations in Chinese medicine stimulated the use of the tongue's appearance as a diagnostic tool, there were also innovations in the routes of contact between China and Europe during the Enlightenment.[8] [9] In the period from 1650 – 1750, the central land route from China to Europe[10] was at a low ebb[11], and the Cape route, through the Indian Ocean, became predominant.[12] Although the 12th to the 15th centuries saw significant Indian Ocean trade between China and Mediterranean Europe, by the 16th century the Indian Ocean trade was dominated by North Atlantic Europe.[13]

The text bringing diagnostic images of the tongue from China to the West travelled along the more recent southern sea route from China, through the Indian Ocean around the Cape of Good Hope and onward to Amsterdam. This new sea route facilitated quicker connections between northern Europe and China[14] at a time when medical theory and practice in northern Europe were in rapid transformation. It is this theme of innovation that provides the connecting tissue between the emergence of tongue diagnostic texts, their transmission to the west, and the medical climate into which they were received.

My approach in this thesis will be to join those who challenge the 'glorious, unbroken intellectual tradition with clinical expertise dating to the Yellow Emperor'[15] and focus on the dynamic developments in Chinese medicine which took place as perceptions of disease causation and therapeutics accompanying epidemic diseases were critiqued, reinterpreted and adapted to construct new clinical interventions. The view of Chinese medicine as a discrete, static and unchanging system is no longer tenable, not least due to the excavation of tomb texts in the Yangzi region in the late 20th century, which revealed manuscripts devoted

---

dieval commerce routes overland and via the Mediterranean Sea can be found in Shepherd, 1911, on pp.108–9 and 98–9, respectively.

7 The complexities of ocean currents are described by Fieux and Reverdin, in Steele *et al*, (eds), 2010, pp.135–162.

8 Adshead, 2000, p.264. This work cites the European East India companies as influential in focusing an unprecedented European intellectual interest on China during the Enlightenment, which becomes relevant to my discussion of the European reception of tongue diagnosis.

9 Scholars give somewhat various dates for the beginning of the period known as the European enlightenment, all ranging from early to mid 17th century to the beginning of the 18th. In this thesis, I date its beginning in the middle of the 17th century.

10 This land route is commonly referred to as the silk road.

11 Adshead, 2000, p.243. See also Matthee, 1999 for a discussion of the Ottoman-Safavid conflicts and the associated disruption to the trade routes.

12 Adshead, 2000, p.264; Kearney, p.5.

13 Kearney, 2004, p.7.

14 See Parthesius, 2010, p.114. This new route, known as Brower's Route, was prescribed for all of the VOC ships by 1616. The route allowed better conditions for ship and crew, and most importantly cut journey time by several months. Zandvliet, in Woodward, (ed.), 2007, p.1437.

15 Lo, 2009, p.290.

to the healing arts.[16] In the course of the past 40 years, such manuscripts have enhanced our understanding of the dynamic nature of the construction of Chinese medicine.[17] These manuscripts preclude the notion that medicine in China is an unchanging entity, a mummy 'embalmed' with no innovative potential, an enduring European conception since the earliest contacts with China. Recent scholarship has paid great attention to the enormous diversity of Chinese healing practices, and these manuscript materials, notably the tomb excavations in late 1973 in Mawangdui 馬王堆[18] in Hunan province give rich evidence of this fact. What, however, they do not evidence is the use of tongue inspection as a diagnostic tool.

To discover the influence developments in medical theory and practice had on the emergence of the tongue as a diagnostic indicator, I will be looking at textual records kept by physicians themselves or compiled by others, from the Han to the Qing dynasty. However, given the long diachronic arc of this dissertation, the term 'physician' suggests a plethora of professional identity possibilities sited in varying societal situations, and therefore begs some clarification.

The Physician in China

The multiplicity of healing practices discussed in recent scholarship signals a necessity to acknowledge the diversity of those engaged in their delivery. This is nicely contextualised by Joseph Needham when he tells us that to understand the position of medical practitioners in Chinese society, it is important to realise that 'the thinkers and the experimenters, the inventors and the physicians, age after age, came from every stratum of society'.[19] Needham goes on to delineate hierarchies of societal respectability, from fully orthodox to *outré*, and locates medicine and its various practitioners as occupying a 'fully borderline' position. The term physician (*yi* 醫)[20] commands a fairly full sweep of the possibilities that ran from *wu* 巫 (spirit medium or shaman) to *shi* 士 (scholar), and the distinctions between them could be blurred, as seen in the *Analects* (*Lunyu* 論語)[21] with the statement 'a man without persis-

16 Harper, 1998; Lo and Cullen (eds), 2005; Lo, in Hsu (ed.), 2001; Despeux, in Hsu (ed.), 2001, among others.

17 The Dunhuang 敦煌 manuscripts locate various aspects of medical knowledge, such as iatromancy, divination, complexion diagnosis, self-cultivation and pharmacology within the cultural context of medieval China. See Lo and Cullen, (eds), 2005 for a collection of scholarly writings on the manuscripts. Also, see Susan Whitfield, 2004, and Lo, in Hsu, (ed.), 2001.

18 For a translation of the Mawangdui medical manuscripts, see Harper, 1998.

19 Needham, 2004, p.38.

20 See Harper, 1998, pp.42–44 for a discussion of *yi* 醫. He makes the important point that occult literature in the Han was often textual, and that this written corpus began to connect magic to natural philosophy in the minds of Han elite. Additionally, see the discussion on Physicians and their knowledge in early China in Lloyd and Sivin, 2002, pp.205–208.

21 Modern scholarship offers various views on the dating of the *Analects,* (sayings of Confucius) ranging from the 5th to the 2nd centuries BCE. See for instance Eno (2015), appendix 3; Brooks, Cohen and Gjertson (2010), pp.93–99; Watson (2007) p.1.

tence will never make a good healer',[22] where 'healer' is the translation given for *wuyi* 巫醫 (shaman/spirit medium physician).

During the Han dynasty, there was no meaningful distinction between the magico-religious and occult belief in sympathies between things alike and the developing correlative cosmology.[23] What we think of as the natural world was continuous with the world of spirits and demons. Nathan Sivin tells us that during the final three centuries BCE the universe that was experienced in 'fits and starts' began to be understood as an 'orderly and harmonious system', or a cosmos.[24] He also queries what made a doctor in ancient China, and how medicine 'emerged from the domain of the hereditary artisan to become a cumulative tradition, with its doctrines, not merely its techniques, transmitted in books'.[25] Michael Puett, considering the systematising of the cosmos and the development of a correlative cosmology, refers to a 'naturalist turn', which he describes as a move from 'religion' to 'naturalism', although this position is challenged by others who are inclined to see continuities from the ancient to the medieval world.[26] It is not the place of this thesis to pronounce on that debate, but to note the complexity of the social world of healers in order to provide the background for an intriguing cast of protagonists in the world of healing in its many guises.

Unschuld and Zheng, in their investigation of Han manuscripts as sources in Chinese medicine, identify several enduring types of 'doctors' in China who practiced without any 'special medical-pharmaceutical' knowledge. Folk doctors, (*minjian yi* 民間醫), had a modicum of medical and recipe knowledge, but the practice of medicine was not the means by which they made their living. They were essentially the local healers one consulted in lieu of a more learned or professional practitioner. Itinerant physicians, variously named *lingyi* 鈴醫[27] (bell [ringing] physicians), *jianghu yi* 江湖醫 (river lake [traversing] physicians), or *caozi yi* 草滓醫 (grasses and swamps [traversing] physicians) did practice professionally, travelling and making their living through diagnosis, treatment, and particularly, the sale

---

22 Translation from Legge (1861) p.136 of *Lunyu* 論語, 13, 22, taken from Needham, 2004, p.41.

23 Five Phase cosmology, a vital aspect of correlative thinking during the Han, is discussed in Needham, 1980, pp.137–153; Graham, 1989, pp.319–325; Harper, 1998, pp.9–11, and in Hsu, (ed.), 2001, pp.99–120; Unschuld, 1985, pp.51–100; Wang, in Lo and Cullen, (eds), 2005, pp.327–328, among others. Hsu, 2010, p.23, contends that medical reasoning in terms of the Five Phases was in an embryonic state in the early years of the Han. Brindley, 2012, pp.131–159, points to Confucian discourse on music as an indicator of cosmological harmony, and its capabilities to affect emotions and *qi.* Puett, 2000, p.45 suggests a 'naturalistic turn', describing the movement from religious to philosophical understandings of correlative cosmology in early China. Catherine Despeux discusses the continuing influence of Han conceptions of the *wuyun liuqi* 五運六氣 (five phases and six *qi*) during the Song dynasty and the importance of the correlative constructs to medical innovation in that period in Hsu (ed.) 2001, pp.121–165.

24 Sivin, 1995, pp.5–37.

25 Sivin, in Bates, (ed.), 1995, p.177.

26 Puett, 2000., p.45, referenced, also in Brindley, 2012, p.3. See Callebaut, 1993, for a fascinating constructed 'discussion' of the 'naturalistic turn' by philosophers and sociologists of science, and in particular, issues of tradition and innovation, pp.55–67.

27 While the *lingyi* were itinerant physicians, this is actually Ming terminology, and not to be conflated with Han practitioners.

of medications. There were also 'magic doctors', or ritualists, who incanted, invoked, and cast spells.[28] Kenneth DeWoskin tells us that from the 3rd century BCE to 4th or 5th century CE there were men who had 'technical skills in medicine, divination, and magic, combined with talent for storytelling and political persuasion', and names these as the *fangshi* 方士 (recipe gentlemen). Elisabeth Hsu declares that the *fangshi* 'predated the elite doctors, *yi* 醫, in Imperial times by several centuries and later rivalled them, not least over clientele'.[29]

In Chapter 4, we will meet the Han physician Chunyu Yi 淳于意, whose case records demonstrate subtlety and proficiency in pulse lore[30], and discernment in diagnostics. Donald Harper argues that Yi was an itinerant physician[31]. Physicians of the 2nd century BCE belonged to the same social strata as those known as *fangshi* and *yinyang* specialists (*yinyang jia* 陰陽家) or *yinyang ren* 陰陽人(*yinyang gentlemen*), and were associated with occult knowledge by the intellectual orthodoxy[32]. Indeed, in Case 6 of physician Yi's records, we see that he practiced iatromancy, or the art of predicting the outcome of illness, and prognosticated death.[33]

Lo and Cullen's work on the Dunhuang medical manuscripts creates a periodisation which they term Medieval, comprising; 'a period in the development of Chinese culture, extending from the fall of the Han until some way into the Tang.'[34] In this timeframe, following the demise of the Han, was the Period of Disunity (250 – 589), which saw a phenomenal growth of Buddhism and the development of what Pierce Salguero terms the 'religiomedical marketplace'[35] which paired the notions of cure and salvation. He goes on to note that during the Tang dynasty (618–907), Buddhist medicine, including ritual and occult practices had become popular in China and their practitioners were sometimes consulted by elite physicians.[36] The renowned Tang physician, Sun Simiao 孫思邈,[37] authored *Qianjin yifang* 千金翼方 (Supplementary Prescriptions Worth a Thousand Gold Pieces),[38] which includes

---

28 Unschuld and Zheng in Lo and Cullen, (eds), 2005, pp.30–37, Puett, 2002, p.318–319; the practices of incantation and conjuring can be found in Wang, in Lo and Cullen, (eds), 2005, pp 427, 429. 324; Zhao, in Lo and Cullen, (eds) 2005, p.69.

29 Hsu, 2001, p.7.

30 Testifying to the admixture of divinatory and scholarly knowledge, Yi's pulse readings are both prognosticatory and diagnostic in terms of the concepts of *yin* and *yang*.

31 Harper, 1998, p.58.

32 Harper, in Hsu (ed.) 2001, p.102. See also Graham, 1989, pp.325–381 for discussions on cosmology, schools, and the *jia* 家. Loewe, 1986, in Twitchett and Loewe, (eds), pp.651–653, notes that there exists a rather anachronistic view of Chinese 'schools' of thought in the Han, when in fact, there was a great overlap of ideas in a complex milieu. He notes that the term '*dao* 道', for instance, features in various time frames with different connotations. See also Harper 1990, and Harper 1998, pp.42–52.

33 See Hsu, 2010, p.234, translation of lines 43–46 of Case 6, for a demonstration of this.

34 Lo and Cullen (eds), 2005, p.2.

35 Salguero, 2014, pp.60–65.

36 *Ibid.,* p.141.

37 Sun is popularly revered as the 'Father of Chinese Medicine'.

38 *Qianjin yaofang* 備急千金要方. Sun Simiao 孫思邈, (1990a), Taibei: Guoli Zhongguo yiyao yanjiusuo.

reference to bibliography: fn then to read Qianjin yifang is supplementary to Sun's Qianjin yaofang 千金要方 (Prescriptions Worth a Thousand Gold Pieces).

incantations and rituals to be used against the malign interventions of the spirit world.[39] His eclecticism intermingled Daoist and Buddhist notions with the concept of systematic correspondence.[40]

Despite sponsoring medical writing and being collectors of medical texts, Asaf Goldschmidt suggests, the literati in China 'almost never took interest in medicine before the 11th century'[41] At least they did not advocate it as a career path for their sons. However, during the Song dynasty (960–1279), Chinese society was reorganising itself. Mark Elvin describes the various economic and social changes taking place.[42] There was a growth of cities and a migration to the south, fuelled by peasants moving from rural to urban areas. Old models of regional self-sufficiency were being replaced with regional interdependence and a concomitant increase in trade. Significant advances in printing led to increased publication and availability of texts, medical writings among them.[43] Transformations in medicine were arguably revolutionary, as the Song government 'revised, standardised, printed and promulgated medical texts',[44] standardised medical education and examinations, and established the Imperial Pharmacy.[45] Indeed, it was not until the Song dynasty that the rich medley of medical practitioners described above truly separated into two distinct strata. Paul Jakov Smith describes these two tiers of healers as those with 'hands-on' skills such as acupuncture, ophthalmology, and the surgical arts; and a much smaller class described as 'Confucian doctors' (*ruyi* 儒醫) [46] who dedicated themselves to scholarship rather than clinical practice.

---

39 Harper, in Lo and Cullen (eds). 2005, p.135–136.

40 Unschuld, 1985, p.160.

41 Goldschmidt, 2009, p.200.

42 The place of Chinese medicine's development, or perceived lack thereof, within this era of various transformations, however, is perhaps less critically addressed, as Elvin omits the vibrant discourse among physicians taking place from the Song through the Qing regarding epidemic disease. For an investigation of this discourse, see Hanson, 2011.

43 Elvin, 1973, discusses the economic and social changes that took place during the Song, particularly pp.69–83, 113–130, 146–163, 175–178, and 184–192. Goldschmidt, 2009, pp.1–6, sets out a view of social, demographic and economic changes that impacted upon medicine in the Song. The impact of societal change on scholar physicians and formularies is described in Scheid, Bensky, Ellis and Barolet, (eds), 2009, pp.xx–xxi. For a description of Song initiatives to raise the status of imperially licensed physicians, see Levine, 2009, in Twitchett and Smith, (eds), p.588, and Goldschmidt, 2009, pp.51–. Printing in the Song is discussed by Carter, [1925] 1955, pp.37–45, 67–102; Brokaw, 2005, pp.8–11, McDermott, in Brokaw and Chow, (eds), 2005, pp.55–104; Hsu, 2012, pp.298–299 and 304, and Chang and Owen, (eds), 2010, p.382, among others.

44 Goldschmidt, 2009, p.200.

45 *Ibid.,* pp.53–54 describes medical education and examination, and pp.126–134 discusses the establishment of the Imperial Pharmacy.

46 This appellation is discussed by a number of scholars, and is variously translated as Confucian physician, scholar physician, and literate physician. Goldschmidt (2009, p.211) notes that the combined characters do not appear in official record until the *History of the Yuan Dynasty*. Needham (2000, p.40) charts the role of physician as a progression from *wu*巫(shaman) to *shi*士 (scholar) and connects an increased usage of the term with the rise in educated elite taking up the study of medicine from the Yuan to the Ming (p.42); and in [1980] 2002, p.158, notes simply that *ruyi* 儒醫 flourished increasingly over time. Hymes, (1987, pp.64–66) cites the connection between the increasing lack of teaching posts and the rise in scholars designated as *ruyi*儒醫.

Nathan Sivin informs us that in the Han, the word *ru* 儒 was sometimes attributed to the followers of Confucius but other times to conventional scholars of indeterminate affiliation.[47] My choice in this dissertation is to translate *ruyi* 儒醫 as scholar physician, in order to emphasise the scholarly undertakings of those to whom the term applies rather than, simply, their assumed literacy, and to avoid the presumption of any particulars of philosophical leanings on their behalf.[48] Issues of title translation aside, it is important to note that it was the increasing participation of elites in medicine that eventually contributed to the creation of demarcations in the hierarchy of medical practice which situated scholar physicians firmly at the top. It was, after all, the literati who could create the textual record of medicine.[49]

The physicians, from Chunyu Yi 淳于意 in the Han to Wu Jutong 吳鞠通 (1758–1836) in the Qing, whose writings I consider in this thesis were all literate. Their records also show them to have had a scholarly interest in and command of the theories of medicine of their eras. Also, apart from physician Yi whose case records are self-justificatory, the physicians I have selected are each in their own way innovative, either in their choice of material for publication, their demonstration of contemporaneous medical and literary style in the recording of their clinical encounters, or their direct contributions to new theoretical constructs in medical reasoning. Additionally, they are all physicians who were renowned in their own time for their expertise, who have left us a body of case records, and who are representative of the progressing time frames addressed in this dissertation. Consequently, despite the variegated picture of healing in China's traditional medicine that I have outlined above, in the course of investigating their records, when I refer to physicians in China in this dissertation, unless specifically noted otherwise, I am referring to elite scholar physicians.

In Table 1 of Chapter 5, I have used the terms scholarly and hereditary to designate shades of differentiation among these physicians, though quite a few are able to make a claim on both identities. Chao Yuanling states that *ruyi* tended to emphasize textual transmission while hereditary physicians valued personal experience and transmission.[50] Even this broad demarcation can be contested, however, as we will find that some hereditary physicians were scholars indeed, who not only referenced textual transmission but authored medical texts and created theoretical and diagnostic innovations. We will see later that the intersection of scholarly learning and clinical experience is highlighted in the work of Ye Tianshi, renowned as one of the originators of the *wenbing* 溫病 (warmth factor illness)

---

47 Lloyd and Sivin, 2002, p.22–25.

48 Contemporary scholars make good use of all three of the above translation possibilities for *ruyi*. Both Chao (2009) and Leung, in Smith and von Glahn, (eds), (2003) use Confucian physician; Furth (1999) and Goldschmidt (2009) prefer Literati physician; Scheid (2007) and Wu (2010) choose Scholar physician.

49 Sivin, in Bates, (ed.), 1995, p.195.

50 Chao, 2009, discusses issues of hereditary and scholarly medicine, and arguments around the notion of the *sanshi* 三世 (three generations). See pp.14 and 25–48.

theory of disease, a concept which is critical to the development of my thesis, as well as the creator of the *sifen* 四分 (four stage) diagnostic approach.[51]

Chinese Medicine through Western Eyes

In this dissertation, I contend that the current place of tongue diagnosis in Chinese medicine bears no relationship to its position in the early dynastic period of China. Tongue diagnosis is so important and pervasive in current training and practice that it is referred to as one of the Pillars of Diagnosis,[52] and is usually referenced as a procedure whose source is to be found in very early writings on Chinese medicine. It is discussed in diagrammatic and theoretical detail in contemporary Chinese medicine textbooks.[53] Along with pulse diagnosis, it is a familiar feature of the 'signs and symptoms' used in planning or discussing acupuncture and herbal medicine treatment. Both the inspection of the tongue and the palpation of the pulse are commonly perceived to be the core diagnostic elements of the contemporary clinical encounter, each being capable of providing accurate and in-depth information about the energetic and physical condition of a patient. Both aspects of diagnosis are imagined to have historical parity.[54]

The inspection of the tongue has been but a single aspect of the clinical encounter in China. To understand its relative significance, some understanding of the overall conceptual framework within which that encounter occurred, and the terminology with which it was expressed, is necessary. Many scholars have written extensively on this topic. The English language repository of studies on Chinese medicine was enriched in 1980 with Joseph Needham and Lu Gwei-djen's 魯桂珍 study of acupuncture in *Celestial Lancets.*[55] While that *opus magnus* is a rich resource for the history of the development of acupuncture, and it's very title evokes the astromedical origins of the technique, it goes down in the historiography as having a fundamentally positivist spirit, the last section being devoted to the now failed 20th century experiment to demonstrate the scientific and biomedical reality underlying the culturally embedded theory. In Needham's own words, Chinese medical genius would 'like all other ethnic cultural rivers, ... flow ...into the sea of modern science'.[56]

---

51 For a history of *wenbing* theory see Hanson, 2011. Ye's *sifen* innovation will be discussed in Chapter 5.

52 The phrase 'Pillars of Diagnosis' is an essential concept in the diagnostics of Chinese traditional medicine. Thee pillars are identified as visual observation (*wang* 望), listening and smelling (*wen* 聞), questioning (*wen* 問), and palpation (*qie* 切). their relevance in practice is described by Judith Farquhar, 1994. It is under the rubric of visual observation (*wang* 望) that we would expect to find tongue diagnosis.

53 As examples of these, see Macciocia, 1995; Kirschbaum, 2010; Xin and Guo, 2001; Schnorrenberger, 2011; Fei and Gu, 2001.

54 Holroyde-Downing, 2005, p.432.

55 Lu and Needham [1980] 2002.

56 http://www.nri.org.uk/joseph.html.

That decade also saw the publication of Paul Unschuld's *Medicine in China: A History of Ideas,*[57] which not only traced the history of Chinese medicine's theoretical developments, but rooted its transformations in the supposed religious, political and socio-economic ruptures accompanying major political transformations. Unschuld was perhaps the first to truly articulate the ways in which classical medical theory reflected the unity of the state in the imagination of the body and its illness. For the first time we begin to see ideas about physiological unity of the body, and weakness represented in terms of deficiency of *qi* and blockages in its circulation or problems with its storage in the organs. The terms with which this body was described, its *fu* 腑 and *zang* 臟 organs he translates as 'palaces' and 'storehouses' to emphasise the metaphors of state implied. While some of Unschuld's observations seem over-simplified in retrospect, it remains one of the most insightful and instructive cultural works on the grand sweep of Chinese medicine history.

Two influential publications concerning the 20th century practice of Chinese medicine also appeared in that decade. *The Web that has no Weaver*[58] was an explanation of Chinese medicine by one of the first non-Chinese Americans to train as a physician of Chinese medicine; while Nathan Sivin's *Traditional Medicine in Contemporary China* offered a partial translation of a mainland Chinese medical handbook,[59] the *Xinbian zhongyi xuekaiyao* 新編中醫學概要 (Revised Outline of Chinese Medicine) which described, as Sivin puts it:

> how the body works, what can go wrong, how symptoms are related to form a diagnosis and how the pattern of a disorder, once recognized, suggests a program of therapy.[60]

While the text translated was itself an icon of China's early 20th-century modernisation, standardisation, and institutionalisation of what had been, outside the confines of palace medicine, primarily a lineage medicine taught in families, and through master-disciple relationships, the introduction provides a very valuable and sustained introduction to the history of medicine in China. Overall, however, these two books were not so much a history of the medicine of China as a snapshot of the practice of medicine in a particular, and modern, period of history. Their treatment of history, as Lu and Needham's before them, began with an articulation of the present, and was inevitably shaped by it. What they do demonstrate, indeed perform, are the ways in which history has defined a Chinese modernity, and continues to do so to the present day so that, in the words of Sean Lei, Chinese medicine as it developed in the 20th century was *Neither Donkey Nor Horse.*[61]

One of the pre-eminent Chinese scholars of the history of tongue diagnosis is Liang Rong 梁嵘, author of *Shejiande lishi yange* 舌鑑的历史沿革 (The History of the

57 Unschuld, 1985.
58 Kaptchuk, 1983.
59 *Xinbian zhongyi xuekaiyao* 新編 中醫學概要 (Revised Outline of Chinese Medicine)1972.
60 Sivin, 1987, p.xxiii.
61 Lei, 2014.

Development of Tongue Diagnosis).[62] Liang identifies the difficulty and complexity involved in obtaining diagnostic accuracy through pulse palpation as a prime reason for the appeal of the tongue diagnosis texts. In contrast to the complex and subjective diagnostic procedure of pulse palpation, the inspection of the tongue offered an objective diagnostic tool with which to assess thermodynamic changes in the body. Liang's work provides an internalist analysis of tongue diagnosis, as she charts the growing significance of increasingly detailed tongue qualities which were gradually systematised to reflect aspects of Chinese medicine's theory. The relationship between tongue diagnosis and warmth factor illness (*wenbing* 溫病) is investigated in her *Qingdai wenbing yi'an 488 lide shexiang fenxi* 清代溫病醫案488例的舌象分析 (An Analysis of Tongue Images in 488 Cases of Warmth Factor Disease).[63]

One of Liang Rong's students, Ioannis Solos, published *Gold Mirrors and Tongue Reflections,* a translation of the *Aoshi shanghan jinjing lu* 傲氏傷寒金鏡錄 (Scholar Ao's Golden Mirror Record of Cold Damage) (hereafter, the *Jinjing lu*) and the *Shanghan shejian* 傷寒舌鑑 (Tongue Reflections in Cold Damage), [64] written in 1668, by Zhang Deng 張登 . Solos laments the fact that much western writing on tongue diagnosis demonstrates a poor grasp of the history of classic texts, preferring to focus on personal experience. His translations aim to present 'established traditional ideas'[65] to western readers, and his inclusion of prefaces and postscripts enriches and elucidates these texts with the views of their authors and readers. *Gold Mirrors and Tongue Reflections* provides careful translations of two particular texts, rather than tracing the evolution of tongue diagnostic theory. It was published during the course of my work on this dissertation. I had intended to undertake a study of the *Jinjing lu*, based on my own translation. However, as I found that the differences in our respective translations were not radical, the publication of Solos's work provided me with the opportunity to engage more deeply with my particular focus on the analysis of innovation which accompanied and propelled the development of the tongue diagnosis tradition.

In 1999 and 2002 respectively, two works discussing the convergence and divergence of Greek and Chinese medicine were published. The first, by Shigehisa Kuriyama[66] reveals the ability of Greek and Chinese physicians to describe the workings of the human body and its function in the world in fundamentally different ways. In Chapter 6, we will see how this divergence came to underlie creative diagnostic misunderstandings, particularly regarding the palpation of the pulse. Kuriyama's identification of a fundamental difference in the perceptions and aesthetics of medicine between the codifications of medicine in Greece and China pivoted on the way in which the Greek perceptions of the body focused on its

62 Liang, 2006.
63 Liang, 2006 a, pp.131–134.
64 The Qing *Shanghan shejian* post-dates the *Jinjing lu* by more than two centuries, and provides 113 images of the tongue, more than tripling the illustrations of the earlier 36-image text.
65 Solos, 2013, p.15.
66 Kuriyama, 1999.

muscularity, a medical aesthetic that apparently led to the anatomical tradition in medicine in Europe. In contrast, Chinese physicians were prone to render the body in cosmological terms, subjugating the individual to the patterns and priorities of the universe and its worldly counterpart of the unified state. While this contrast has proved attractive to many, particularly those looking for early evidence of the 'holistic' body, this thesis is more concerned with the physicality of the tongue and participates in a more recent movement that reinstates the much ignored history of Chinese anatomy and its place in the history of medicine.[67] Relevant, however, to this thesis is the elegant way in which Kuriyama describes how the complexion of the face as a diagnostic tool, and the manner in which the pulse is interpreted express the condition of the inner body. Against this background it becomes possible to analyse the relative importance of the tongue as an indicator of a person's health, and to historicise it against the much more important and pervasive earlier diagnostic systems that were well developed in the Han period.

The second important cross cultural history of Greek and Chinese medicine, *The Way and the Word*,[68]explores the differences between the Greek and Chinese understandings of cosmology, science and medicine between 400 BCE and 200 CE. In this book we learn that *qi*, translated variously but never definitively into English, was used before 300 BCE, for perceptible but intangible phenomena, such as mist, air, breath, or spirit, as well as for the vital energy of the human body and the influences of climate and cosmos upon that body.[69] We will see in the case records from the Han to the Qing that *qi* is mentioned as an aspect of the deterioration or recovery of health.

The case record as a genre and the information it conveys is a focal point of this dissertation and the subject of Chapter 5. Many scholars have written about medical case records, and the origin of the genre. Elisabeth Hsu investigates the case records of the Han physician Chunyu Yi to illuminate the use of pulse diagnostics in early China.[70] Christopher Cullen's work on the origins and history of the *Yi'an* genre in China traverses time across dynasties from the Shang 商 (1600–1045 BCE) to the Qing 清 (1644–1911) and makes the point that by the time the genre was established in the late Ming 明 (1368–1644) the publishing industry was growing, as was the literate elite's interest in medicine as a possible career choice, and encyclopaedic collections of cases were eagerly received. As Cullen puts it, 'what could be more useful as a quick route to apparent expertise than a collection of authoritative medical cases statements?'[71]

---

67 Despeux, 2007, pp.635–684; Lo and Li, 2010.
68 Lloyd and Sivin, 2002.
69 *Ibid.*, 2002, pp.195–198.
70 Hsu, 2010.
71 Cullen, in Hsu, 2001, p.319.

In 2003, Joanna Grant published a study of the 16th-century case records of a Huizhou 徽州 physician, Wang Ji 汪機 (1463–1539).[72] In the cases selected, we become aware of the competitions in elite medical practice as Wang's patients search out various opinions and rival physicians recommend alternative treatments.

The Case record as an interdisciplinary instrument is explored in the 2007 publication, *Thinking With Cases.*[73] We are shown the relevance of the 'case' to law, religion, literature, linguistics, philosophy and statecraft, as well as to medicine. In Chapter 2, Pierre-Étienne Will makes clear forensic medicine's place at the juncture between law and medicine and in Chapter 4, Charlotte Furth argues for the case record's ability to actually produce medical knowledge. Within the grand cosmologically grounded systems of nature and society, narratives of events established factual particulars, which provided a basis for reasoning.

These same factual particulars within narratives of events were also able to evidence innovation, as we will see as this thesis develops. The innovations of scholar physicians, which I contend are associated with the rise of tongue inspection in late imperial China, were themselves facilitated by the rise of a philosophy known as Neo-Confucianism,[74] or *daoxue* 道學 (learning of the way).[75] The Song Neo-Confucians appeared during the 11th century, identifying themselves with the philosophical teachings of brothers Cheng Yi 程頤 (1033–1107) and Cheng Hao 程顥 (1032–85), and later, Zhu Xi 朱喜 (1130–1200). It was Zhu Xi who created the bulk of the textual foundation of Neo-Confucian philosophy.[76]

Zhu Danxi 朱丹溪, one of the four famous physicians known as the *Jinyuan sidajia* 金元四大家 (the Four Masters of Medicine of the Jin and Yuan periods),[77] was a student of Zhu Xi. Through Zhu Danxi and various other physicians of the Jin-Yuan, the Neo-Confucian philosophical construct of *gewu* 格物 (the investigation of things) entered into the field of medical discourse. Angela Leung states that the rise of Neo-Confucianism was an important aspect of the split between the popular and scholarly medical traditions, and that although medicine was never a feature of China's civil service examinations, the 'bookish,

---

72 Grant, 2003.

73 Furth, Zeitlin and Hsiung, 2007.

74 Neo-Confucianism, a term coined by the Jesuits in the 17th century, was a revival of Confucian theory that occurred during the Song dynasty. It was greatly influenced by, and developed in reaction to, aspects of Buddhism and Daoism. Huang (1999, p.4), suggests a four-fold causation: reaction to foreign invasion, reaction against perceived Buddhist nihilism, Daoist influence, and a revival of Confucianism. It prized the investigation into relationships within the cosmos, and humans within that cosmos. For explanations and discussions of Neo-Confucianism see Bol, 2008; Liu, 2017; Angle and Tiwald, 2017; Leung, in Smith and von Glahn, (eds), 2003; Chaffee, and Twitchett, (eds), 2015 particularly Hymes, chapter 8, Bol, chapter 9 and Tillman, chapter 10.

75 Bol, 2008, p.78 notes that there are several Chinese translations for this philosophy, and lists them as: *daoxue* 道學 (the learning of the Way), *lixue* 理學 (learning of the principles that give all things their coherence), *xinxue* (心學)the learning of the mind), *xingli xue* 性理學 (the learning of the nature and principle/coherence), and sometimes simply *shengxue* 聖學(the learning of the sages).

76 *Ibid.*, 2008. p.88–89.

77 These four physicians and their innovations will be presented later in this chapter.

theoretical side of the classical medical heritage favouring pulse-reading and prescription of medicines developed into a scholarly tradition'.[78]

Bol argues that the search for certainty in knowledge, which was a key aspect of Song Neo-Confucian philosophy, would have led the scholarly elite to postulate that if the two greatest empires, the Han and the Tang, had not provided answers, 'then there was not only reason for uncertainty but also a need to find new guides'.[79] In a similar vein, I would argue, paraphrasing Bol, that physicians from the Song and into the Qing would have postulated that if one of the greatest medical classics, the *Shanghan lun* 傷寒論 (Cold Damage Treatise)[80] did not provide answers for effective treatment of epidemics,[81] then there was not only reason for uncertainty but a need to find new theories. Physicians of late imperial China were recipients of Neo-Confucian philosophy's encouragement of investigative reasoning and they were desperate to address the ineffectiveness of established medical interventions in the face of febrile epidemics. The combination provided a fertile field for the adoption of new clinical behaviours, and for the reception of an illustrated medical text dedicated to a new method of diagnosing *shanghan* illness.

The Search for the Development of Tongue Diagnosis

In my search for the story of the development of tongue diagnosis, I will be consulting original and secondary sources, some of which include the classical canons from the Han dynasty, case records of individual physicians, elaborations on and annotations of theoretical texts by scholar physicians. I will argue that contemporaneously with the appearance of the tongue diagnostic text, there were innovative developments in theories of illness causation and progression, particularly febrile and epidemic illnesses, that stimulated physicians' interest in the tongue. Additionally, post Song dynasty (960–1279) economic and social developments and advances in printing, coalesced to enable a wider dissemination of printed texts to a literate population with the means to purchase them.[82] While the appearance

78 Leung, in Smith and von Glahn, (eds), 2003, p.398.

79 Bol, 2008, p.8.

80 This Han text benefitted from the Song government's undertaking to revise and print medical texts that would assist the response to a wave of epidemics. The Song definition of epidemics was *shanghan* 傷寒 (cold damage disorders). For the importance of this text in the Song, see Goldschmidt, 2009 generally, and particularly pp.69–74, 93–95 and 99–101; Despeux, in Hsu, (ed.), 2001, p.146.

81 The tensions created in medical response to this lack of efficacy in the face of epidemics are set out by Hanson as arising between 'past canon and clinical experience, universalism and localism, old formulas and new diseases, and Warm diseases and Cold Damage'. Hanson, p.22.

82 While I am referring to published texts, I do not overlook the fact that a manuscript tradition flourished well into the 20th century. As I will point out later in this dissertation, the tongue images would have also been hand-copied, along with their recipe indications. For further information on the continuing transmission of knowledge through the manuscript tradition see the discussion in Unschuld and Zheng's *Manuscripts as Sources in the History of Chinese Medicine*, in Lo and Cullen (eds), 2005, pp.19–44, in which it is pointed out that 'well into the 20th century, not everyone who

of the tongue held only marginal interest for the compilers of canonical texts, renowned physicians of the late Ming and Qing dynasties devoted ever more attention to its diagnostic possibilities.

I maintain that the critical junctures in the development of tongue inspection as a diagnostic technique were threefold: the rich and innovative reworking of the theoretical processes of Chinese medicine that occurred from the late Song to the Qing dynasty, the growing availability of medical publications to the considerably increasing number of literate physicians during the Ming (1368–1644) and Qing (1644–1911) eras, and the eventual establishment by southern physicians of the *wenbing xuepai* 溫病學派 (warm disease current of learning)[83] which flourished during the Qing dynasty and which was so important for the treatment of febrile epidemic illness and for which the appearance of the tongue held significant information.

During this time frame, China began to develop long-distance trade,[84] and we will see that the increasingly pervasive use of tongue presentation as a diagnostic tool did not remain a singularly Chinese practice. In Chapter 6 we will see that the proliferation of tongue texts in China coincided with vigorous trade between China and Europe, particularly by way of the Dutch East India Company, or *Vereenigde Oost Indische Compagnie* (VOC), which created its own commercial monopoly in the East. A ship's surgeon on one of the VOC's vessels brought a text on Chinese medicine to Europe, which was published in Frankfurt in 1682. This book, *Specimen Medicinae Sinicae, sive Opuscula Medica ad Mentem Sinensium* (An Outline of Chinese Medicine, or a Short Work on Medicine according to Chinese Thought), hereafter the *Specimen*, was a book in six parts, in Latin, covering much Chinese medicine theory and practice. The sixth part is of particular interest to this dissertation, as it portrayed images of the tongue that significantly match the Chinese illustrations in tongue diagnostic texts. This sixth section of the text offered an image-based manual connecting 36 presentations of the tongue with stages of febrile illness, which are essentially devoid of Chinese medicine's philosophical underpinnings. It allowed the transmission of knowledge about the significance of the tongue without any attendant requirement to understand or accept Chinese medicine theory. In considering the transmission of this text, I will also consider the issue of globalization in Chapter 6.

---

could read a book or wanted to apply its contents could buy one.' p.37.

83 I have chosen to use Volker Scheid's translation of *xuepai* as currents of learning as I agree that it more faithfully represents the phrase's meaning than 'school' or 'lineage'. See Scheid 2007, p.13.

84 While the focus of this dissertation is on the commerce between China and the West which enabled the transmission of medical texts and knowledge, I am mindful of the fact that exchange between China and the west dates from antiquity. There was, for instance, a lucrative trade between China and the roman world with Chinese silk and lacquer ware making the journey to Europe. See Kearney, 2004, p.40. Also, near the German town of Stuttgart, Greek Bronzes and Chinese silk have been found together in the excavation of a 6th-century BCE tomb, and there are evidences of links between the Black Sea and the northern China plains. See Christopoulos, 2012, p.31, fn.56.

The Tongue Images Appear

In 1341 during the Yuan Dynasty (1271–1368), a medical text appeared which contained 36 drawn representations of a variety of tongues. Each was accompanied by an explanation of what the individual tongue was depicting in terms of illness, and a directive as to what prescription was necessary to treat that illness. The title of the text was the *Aoshi shanghan jinjing lu*, 敖氏傷寒金鏡錄 (Scholar Ao's Golden Mirror Record of Cold Damage) and the provenance of these tongue images weaves a fascinating story.

The inspection of the tongue, initially associated with portents of impending death or with the presence of febrile illness known as *shanghan* 傷寒 (cold damage), is now a pervasive aspect of a traditional diagnosis, and, as noted above, it is a fundamental part of the curriculum in most colleges of Chinese medicine. It is discussed in diagrammatic and theoretical detail in contemporary Chinese medical textbooks and is a feature of the 'signs and symptoms' used in planning or discussing acupuncture and herbal medicine treatment. There are myriad teaching texts on tongue diagnosis, most recently with photographic images of tongues in numerous quantity showing great varieties of qualities. Tongue diagnosis is usually presented together with pulse diagnosis as systems having comparable antiquity and joint primacy in the clinical encounter. And yet, even a cursory look at classical texts, case histories and formularies from the Han dynasty (206 BCE–220 CE) to the Qing dynasty (1644–1912) suggests it has not always enjoyed its current status.[85]

A Brief Textual History

It is, of course, impossible in this dissertation to exhaustively address all the received texts of Chinese medicine that refer to the tongue. However, even a brief glance at a selection of references to the tongue from the Han through the Song dynasties reveals two interesting facts. These references are neither expressions of a diagnostic system, nor are they conveyed as images.

Texts from the Mawangdui 馬王堆 burial site [closed 168 BCE] are thought to pre-date the classical compilations of Chinese acupuncture theory found in the *Huangdi neijing* 黃帝內經 (Yellow Emperor's Inner Classic),[86] and the *Nanjing* 難經 (Classic of Difficult Issues).[87]

---

85 Holroyde-Downing, 2005, p.432.

86 The *Huangdi neijing corpus* consists of two treatises: *Suwen* 素問 (Fundamental Questions) and *Lingshu*靈樞 (The Numinous Pivot), written down *c.*2nd century BCE, plus the *c.*7th century CE *Taisu* 太素 (Great Basis) recension, which overlaps with both. There is general scholarly concensus that the corpus came into being through a process of medical texts being combined and transmitted among physicians during *Qianhan* 前漢 (Former Han (206 BCE–8 CE)).

87 Also known as the *Huangdi bashiyi nanjing* 黃帝八十一難經 (The Yellow Emperor's Classic of 81 Difficult Issues). It was probably compiled in the 1st or 2nd century CE, during *Houhan* 後漢(Later Han (25–220 CE)).

These tomb texts, reflecting the newly emerging physiological medicine of the Warring States and early Han, present early concepts of the body's vessel system. In them also, diseased bodies begin to be ascribed to a slow breakdown of a state of internal harmony, rather than to attacks by a displeased ancestor or spirit, as had been the nature of earlier concepts of illness causation.[88] Evidence of connection between the tongue and the body's organs is found in vessel descriptions such as 'attached to the kidney and presses laterally on the tongue',[89] or 'emerges at the liver, enters the upper side, and is attached to the tongue'.[90] The tongue also features in the *Yinyang mai sihou* 陰陽脈死候 (Death Signs of the Yin and Yang Vessels), a modern title for a Han dynasty text concerned with the prognosis of death, which states, 'when the tongue binds and the testicles curl up, muscle has died first'.[91] In these references, the tongue displays a symptom of *yin-yang* pathology but its presentation remains far from a 'system' of diagnosis in its own right. The terms *yin* and *yang* will be considered in more detail later in this dissertation, but it is worth noting here that they are complementary opposites applied to many domains of knowledge from the Zhou period (1046–256 BCE), which by the time of their inclusion in the classical works of medicine had come to signify qualities of both antagonism and generation used in the diagnosis of illness.

By the time of the *Jingmai* 經脈 (Standard Channels) treatise of the *Lingshu* 靈樞 (Divine Pivot) recension of the *Huangdi neijing*, the anatomical planes of the vessels link clearly with organs and there is an elaborate system of correspondences in place that begins to systematise pulse and complexion diagnosis. Yet the *Huangdi neijing* corpus contains only a handful of references to the tongue within the vessel/organ framework, and only scattered mentions of the tongue's colour or dryness.

By the end of the Han, the foundations of classical medicine are considered to have been set out in textual form. The *Nanjing*, often considered the work that represents the 'the apex, and also the conclusion, of the developmental phase of the conceptual system known as the medicine of systematic correspondence',[92] only makes passing references to the tongue. In it, we learn that the tongue weighs 283gm, has a length of 17.8cm and a width of 6.4cm; that when cold and heat have affected the flesh, the lips and the tongue will dry out; that the influences of the heart pass through the tongue; that when the tongue is at ease, one knows the difference between the grains; and that when the foot-ceasing-yin vessel is compromised, the testicles draw in and the tongue rolls back.'[93]

Wang Shuhe 王叔和 (180–*c.*270) is the author of the *Maijing* 脈經 (Pulse Classic), (2nd century). In this work he echoes the tongue presentation in the *Yinyang mai sihou* when he

88 Unschuld, 1985, p.26–28.
89 Harper, 1997, p.210.
90 Ibid., p.197.
91 Ibid., p.220.
92 Unschuld, 1986, p.3
93 Unschuld, 1986, pp.305, 389, 418, 516.

writes, 'A sick person with a curled tongue and retracted testicles is bound to die'.[94] Wang uses the tongue presentation simply as a portent of impending death, indicating nothing about the type of illness contracted or organs involved in the imagined demise. Against the copious writings on information discoverable about the inner body through the palpation of the pulse, we can see that tongue inspection was incidental in scholarly medicine of that time. The presentation of the tongue was noted with certain illnesses, certain vessel trajectories and certain prognosticatory patterns, but not as an indicator of problems within particular organs, and certainly not as a paramount piece of diagnostic information.

The *Suwen* recension of the *Huangdi neijing*[95] states that the physician who diagnoses using both the pulse and the complexion achieves perfection.[96] *Juan*[97] 49 of the *Lingshu,* entitled *Wuse* 五色 (The Five Colours) is devoted exclusively to the analysis of the complexion, and the 105th chapter of the *Shiji* 史記 (Records of the Historian) by Sima Qian 司馬遷 (?145–?146 BCE) contains three case records of the legendary physician Bian Que 扁鵲 (?407–?310 BCE). He is described as someone who 'did not depend on taking the pulse for his diagnosis; he observed the complexion, the sounds, described the body and could thus deduce the seat of the illness'.[98] One of these records describes his encounter with what Miranda Brown labels a 'stubborn patient', Lord Huan 桓.[99] The physician tells the lord that he is suffering from a mortal illness, as yet superficial, which must be treated. Feeling altogether well, Huan is disparaging of the warning. Undeterred, Bian Que persists, returning several times to the court to deliver warnings that the illness was becoming increasingly dire and in need of treatment. The episode concludes with Bian Que seeing the lord from a distance, recognising that the illness had become terminal, and fleeing. Huan, of course, subsequently dies.

It is significant that Bian Que flees when he sees that the illness he diagnosed can no longer be cured. Prognosis was a vital aspect of diagnosis during the Han, not least because the death of a patient could endanger the life of the physician! While the physician's gaze was clearly valued during the Han, its focus was on complexion, and in these texts the tongue receives scant attention.

The medical case history is a marvelous window into the actual practice of a physician at a given point in time. It offers the individual records of the diagnosis and treatment of a single patient by a single physician, though the content, context, and application of infor-

94 Yang, (trans.) 2002, p.138.
95 The combined treatises of the *Huangdi neijing lingshu* 黃帝內經靈樞, *Huangdi neijing suwen* 黃帝內經素問, and *Huangdi neijing taisu* 黃帝內經太素 (hereafter cited as *neijing*) are generally considered to contain the core theory of traditional Chinese medicine.
96 Kuryiama, 1999, p.10.
97 *Juan* 卷 is a textual classifier, signifying a scroll or chapter.
98 Despeux, in Lo and Cullen, 2005, p.180.
99 Brown, 2015, p.41.

mation may vary.[100] One of the earliest examples of the case history can be found in the above mentioned *Shiji* by Sima Qian. A physician, Chunyu Yi 淳于意 (216–150 BCE), was summoned by imperial order to give an account of his practice. Offering 25 case histories in defense of his standing as a worthy physician, he writes that 'in every case where your vassal has conducted a medical consultation, he has always made a consultation record *zhenji* 診籍'.[101] A common turn of phrase in most of these records is, 'when I examined the mai [pulse]…' .[102] Nowhere in his records do we find the comparable phrase, 'when I inspected the tongue'. Certainly, to Chunyu Yi, the tongue did not hold vital diagnostic information.[103]

Epidemics and the Search for Effective Treatment

During the Song Dynasty an onslaught of epidemics ravaged southern China.[104] Treatments for these epidemic illnesses were too often unsuccessful, and the imperial government was anxious to find ways to expand the scope of medical literature in the search for effective remedies.

It established a new bureau, *Jiaozheng yishu ju* 校正醫書局 (Bureau for Revising Medical Texts), which it charged with searching out, revising and publishing a selection of ancient and previously neglected classics that might prove useful in combating the epidemic illnesses.[105] One of these rehabilitated texts was the *Shanghan lun* 傷寒論 (Treatise on Cold Damage),[106] written by Zhang Ji 張機 (style name Zhongjing 仲景, *fl.* late 2nd century CE). Zhang is known to have compiled this text after an epidemic swept through his hometown of Changsha (in present day Hunan province), killing numerous members of his family and decimating the general population. Over the next two centuries it became one of the most highly regarded and popularly disseminated medical texts. Its particular genius was to pay attention to the individual and evolving condition of each patient during a rapidly changing illness, not just a notion of a fixed disease.[107]

While the *Shanghan lun* was revolutionary in its strategies for treatment with herbal prescriptions, it offered no tongue illustrations and only scattered mentions of tongue presentation. One of these few mentions is line 230 of the text. Under the rubric of *shaoyang* 少陽

100 Cullen, in Hsu (ed.), 2001, p.297.
101 Cullen, in Hsu (ed.), 2001, p.305, citing *Shiji, juan* 105, 2813.
102 Hsu, in Hsu (ed.) 2001, p.57.
103 Segments of the above section are based on an article by the author: Holroyde-Downing, 2005, pp.436-443.
104 Goldschmidt, 2011, provides an in-depth look at the numbers and severity of the epidemics.
105 See Goldschmidt 2009, for a discussion of the Song government's revision and promulgation of earlier medical texts.
106 Zhang Ji 張渡，(*c.*200), Liu Duzhou 劉渡舟 (ed.), 1991.
107 Miyashita 1986, p.112.

(lesser *yang*)[108] illness it lists *bai shetai* 白舌胎 [苔][109] (white tongue fur) among indications for the use of the recipe *xiao chai hu tang* 小柴 胡湯 (Minor Bupleurum Decoction).[110] Yet despite the paucity of tongue information in this text, the increased Song dynasty focus on treatments for febrile illnesses was conducive to other innovations during the following Jin-Yuan period (1115–1368) which I will argue did have implications for the eventual development of tongue diagnosis.

Tongue Inspection Emerges as an Illustrated Aspect of Diagnosis

The Jin-Yuan period saw the consolidation of power in the North of China, with concomitant cultural changes, such as the development of neo-Confucianism.[111] The accompanying fresh currents of widespread governmental, cultural and philosophical changes impacted also upon medical thinking, where old ideas of aetiology were being creatively reworked. The era produced four renowned medical innovators.[112] Two of these were particularly interested in the existence and manifestations of fire, or heat, in the body. As we will see in Chapter 2 the identification of pathologies caused by fire in its various imbalances was contemporaneous with increased interest in tongue presentation. One of the physicians who theorised about fire was Liu Wansu 劉完素 (1110–1209).[113] He put forward the hypothesis that the six pathogenic influences presented in the *Suwen* would all ultimately manifest in a patient as fire.[114] The perceived importance of heat, or fire, as a disease factor, especially with

---

108 The term *shaoyang* denotes one of the six classifications of disease in the *Shanghan lun,* which will be explored later in this dissertation. It signifies a situation in which a pathogen is referred to as being half exterior yet half interior, i.e. the body is fighting the attack of a damaging influence, with the outcome remaining unclear. For further explanation of the six classifications, see Moore, 2012.

109 The character used in contemporary publications to denote the coating, or fur, on a tongue is 苔, while that used in the original tongue texts was 胎, often translated as embryo, or fetus.

110 The components of this formula are bupleurum *chai hu* 柴胡, scutellaria *huang qin* 黃芩, pinellia *ban xia,* 半夏 ginseng *renshen* 人參, dates *da zao* 大枣, and ginger *sheng jiang* 生姜.

111 Concisely put, Neo-Confucianism was a reaction to the prominence of Buddhist and Daoist beliefs and power in Chinese society, leading to a re-invigoration of Confucian learning. It's original proponents were Han Yu 韓愈 (78–824) and Li Ao 李翺 (772–841), and its greatest theorist was Zhu Xi 朱熹 (1130–1200). In Chinese, it is known as *lixue* 理學 (study of universal order), with a dictum of '*gewu zhizhi*' 格物致知 commonly translated as 'the investigation of things and the extension of knowledge'. A short explanation can be found in De Bary, 1989, p.196.

112 These physicians are known as the *si dajia* 四大家 (Four Masters) of the Jin and Yuan dynasties. The physicians and the approaches they advocated are: Liu Wansu 劉完素 (1120? –1200), *Hanliang pai* 寒涼派 (Cold Cooling Current), Zhang Zihe 張子和 aka Zhang Congzhen 張從正 (1156–1228), *Gongxia pai* 攻下派 (Attack and Purge Current), Li Gao 李杲 aka Li Dongyuan 李東垣(1180–1251), *Piwei pai* 脾胃派 (Spleen and Stomach Current) and Zhu Zhenheng 朱震亨 aka Zhu Danxi 朱丹溪(1281–1358), *Yangyin pai* 養陰派 (Tonify Yin Current). They will be further referenced later in this dissertation.

113 Liu wrote the *Shanghan zhige fang* 傷寒直格方(Direct Investigation of Cold Damage). In this work, he refers to the tongue, but his tongue descriptions are limited to dry, parched, swollen or ulcerated. It is of note that all these descriptions are congruent with bodily heat.

114 The six pathogenic influences listed in the *Suwen* and referred to here are wind, cold, damp, summer heat, dryness and fire.

the recent memory of the Song febrile epidemics,[115] engendered his theoretical innovations. The prescriptions he developed and his methods of treatment focused on ensuring that this fire did not accumulate within the body. His approach became known as the Cold and Cooling current (*hanliang xuepai* 寒涼學派).

Another of the major Jin-Yuan innovators was Zhu Danxi 朱丹溪 (1281–1358), who focused on the movement of *xianghuo* 相火 (ministerial fire) in the body.[116] He reasoned that this fire could pose a risk to the *yin* energy in the body, specifically the Kidney's *yin*, and founded the Tonify *Yin* Current. Chapter 7 discusses how it becomes possible to imagine that with the reworking of the constraints around *shanghan* theories of illness and the new hypotheses around the significance and manifestations of fire, there would be increasing interest in developing ways to 'see' and eventually depict pathogenic heat within the body.

Indeed, it was during the Yuan Dynasty (1271–1368) that we find the first evidence of tongue inspection emerging in an illustrated form. A book entitled the *Jinjing lu* 金鏡錄 (Golden Mirror Record), authored by someone known only as Scholar Ao, presented 12 images of tongues, relating them to the *shanghan* 傷寒 (cold damage)[117] disorders discussed in the *Shanghan lun*. We know of this lost text through another later text by Du Qingbi 杜清碧 (1276–1350). Du organized and supplemented the *Jin jinglu*, adding 24 of his own illustrations.[118] The resulting work was published in 1341 as *Aoshi shanghan jinjing lu* 敖氏傷寒金鏡錄 (Scholar Ao's[119] Golden Mirror of Cold Damage Disorders) and does indeed offer a systematic presentation of images. Du presents the various and changing colours of the body of the tongue. He describes the tongue's shapes and peculiarities of surface geography, such as cracks and spots, and different possibilities of tongue coatings. Importantly, he connects his illustrations with drug prescriptions, most of which were previously published in Zhang Zhongjing's *Shanghan lun*.[120] For example, the *Aoshi shanghan jinjing lu* records the above-mentioned recipe for *xiao chai hu tang*, (Minor Bupleurum Decoction) as a treatment for *shaoyang* 少陽 illness – just as in the *Shanghan lun* – but additionally provides an illustration of the tongue one would see in a patient with this stage of illness, thereby facilitating diagnosis (see Fig. 1).

---

115 See Goldschmidt 2009, Hanson 2013, and Boyanton 2015.

116 In the correlative linking between organs and elements (as in wood/Liver, fire/Heart, earth/Spleen, metal/Lungs and water/Kidneys) a distinction is made between monarch fire and ministerial fire. Fire as an element is generally associated with the Heart, and referred to as 'monarch' fire. But there is also a fire which is associated with the kidneys, and this is termed 'ministerial' fire.

117 Hereafter, I will refer to cold damage as *shanghan* in order to place the disorder clearly in its Chinese medicine context.

118 Holroyde-Downing, 2005, pp.443–444.

119 While Ao's exact identity cannot be positively verified, some scholars suggest that he may be Ao Jiweng, a native of Fujian, of uncertain dates during the late Song or Yuan period.

120 Exceptions to this will be pointed out in the discussion of the text in Chapter 3.

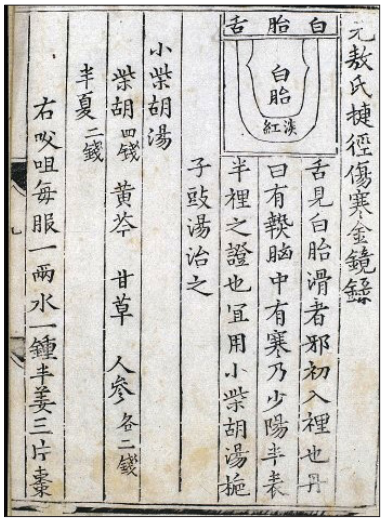


Figure 1 From a 1341 edition of the *Aoshi shanghan jinjing lu,* showing a tongue with a white coating in the centre and red tip. The prescribed drug recipe is *xiao chai hu tang* 小柴胡湯 (Minor Bupleurum Decoction) and *zhi zi chi tang* 梔子豉湯 (Gardenia and Prepared Soybean Decoction). Courtesy of the Library of the Academy of Chinese Medicine, Beijing

These illustrations suggest that the *Aoshi Shanghan jinjing lu* was a much copied text. In the library archives of the Beijing Academy of Traditional Chinese Medicine there can be found an array of publications too numerous to list, from the 14th century through to the 20th century, containing illustrations of the original 36 tongues presented by Du Qingbi. There are both woodblock prints and hand drawn illustrations. Some of the latter are quite rudimentary. While many of the woodblock prints are nearly exact copies of the early text, differences also occur. Some differ only slightly with variant titles of the individual illustrations or the sequencing of the drawings. Some compilations give basic black and white illustrations, while others – not necessarily newer ones – offer coloured illustrations.[121] There are replications of the 36 tongues inserted into medical case records, and compilations of tongue drawings that stand alone as discrete publications. Interestingly, some of the tongue texts include the prescriptions set out in the *Jinjing lu*, with and sometimes without dosages, while others simply offer the illustrated tongues with a textual description of the image. There are even handwritten texts that dispense entirely with the drawings, having only numbered lists and textual descriptions of the 36 tongues, suggesting widespread familiarity with the images. The existence of so many of these illustrated tongue texts, published from the Yuan dynasty until the current time, highlights the importance they assumed for physicians, particularly in dealing with febrile illness.

121 Beneath the 12th tongue illustration (entitled death tongue) in Du Qingbi's 1341 edition of the *Jinjing lu*, he writes 'although the tongue to the right (previous image) has colour, it will lessen as time goes by which means we can't tell the difference, so I note it'. This suggests that Ao Shi's original text of the twelve tongues had coloured images, though we cannot be certain.

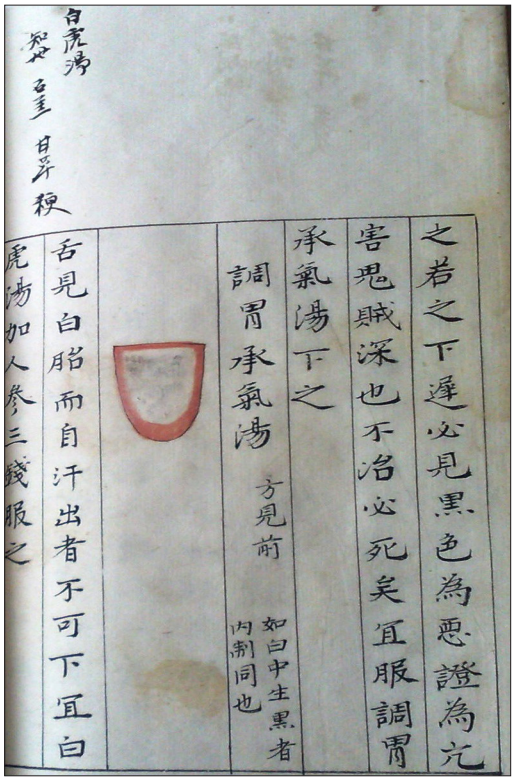


Figure 2 From a hand-drawn 1445 edition of the *Shanghan jinjing lu*. The image shows a tongue with red edges and a dirty white coat. The prescribed drug recipe is *bai hu tan* 白虎湯 (white tiger decoction) with *ren shen* 人參 (ginseng) added. Courtesy of the Library of the Academy of Chinese Medicine, Beijing

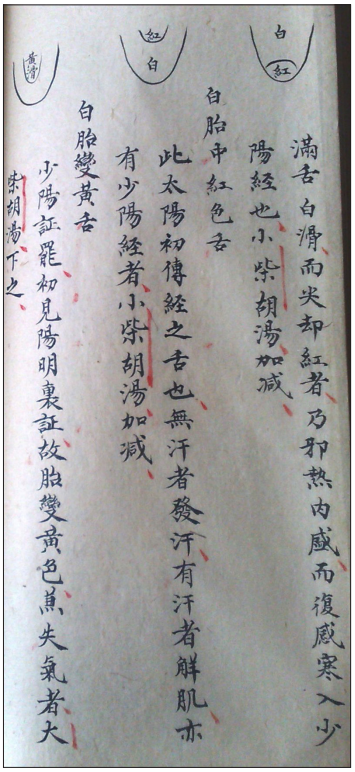


Figure 3 From the *Shebian sanshiliu zhong* 舌辨三十六種 (Distinguishing the 36 Types of Tongues), a 1910 hand-drawn text on tongues. This illustrates the enduring influence of the 36 tongues of the *Jinjing lu*. As with Fig. 1, the tongue image on the right displays a white coat with red tip, prescribes the drug recipe, *xiao chai hu tang* and associates this appearance with a shaoyang pattern of illness. Courtesy of the Library of the Academy of Chinese Medicine, Beijing

The Tongue's Rise to Prominence

The taking of the pulse at the radial artery is arguably the most iconic diagnostic image of Chinese traditional medicine, with a great amount of textual history.

The mastery of the pulse was an essential skill, which traditional doctors acquired through years of practice and experience. This learning typically took place while practicing as the disciple of another eminent physician, or was acquired from the experienced elder physicians within a kinship network. However, during the Ming dynasty (1368–1644) a combination of factors conspired against this usual accumulation of medical learning and clinical experience.

Figure 4 A doctor taking the pulse of a female patient. Watercolour by Zhou Peichun 周培春, active 1890. Courtesy of the Wellcome Library London, image L0004700

As we will see in Chapter 4 the numbers of scholars passing the imperial examinations during the Ming period increased significantly, without an attendant increase in civil service posts. Trade, however, was on the rise, allowing the expanding and increasingly wealthy merchant class to finance the education of their sons. Additionally, advances in printing led to an unprecedented availability of texts. Medical texts were among the most desired, and the profession of medicine became an obvious career choice for the scholar gentry,[122] as this new and rather sideways aspiration took form, from that of civil service post holder to respected physician. But shortly a significant obstacle presented itself. There was no concomitant increase in experienced scholar physicians with whom these novice practitioners could study and apprentice.[123] Although mastery of medical theory could be achieved through textual study, clinical skill could not. Subtleties of a patient's pulse presentation could be missed, leading to dangerous misdiagnosis, as a case history that follows will illustrate.

Before recounting the case, however, three concepts referenced in its narrative, *yin* 陰 and *yang* 陽, as well as *shanghan,* deserve some further explanation, albeit brief. In describing *yin* and *yang*, chapter 6 of the *suwen* begins thus.[124]

> Huangdi asked: 'I have heard: heaven is *yang*, the earth is *yin*; the sun is *yang*, the moon is *yin*.'[125]

122 For a discussion of Ming social changes, see Leung, in Von Glahn, (ed.), 2003 and in Hinrichs and Barnes, 2013, Hymes, 1987, Brokaw and Chou, 2005, Brook, 1998, and Unschuld, 1985, among others. See also Clark, 1991, for an overview of trade networks in southern China.

123 Ho, 1962; Hymes, 1987; Elman, 2000 and Chao, 2009, among others, discuss the changes in societal structures that impacted upon the practitioners of medicine.

124 I refer here to the Unschuld *et al.* 2011 translation of the *suwen*, p.127, from which I take the English translation.

125 Unschuld *et al.*, 2011, p.127, [S*uwen,* Beijing 1983, 6-48-6].

And in chapter 7, we read:

> that which leaves is *yin*; that which arrives is *yang*. That which is quiet is *yin*; that which moves is *yang*. Than which is retarded is *yin*; that which is frequent is *yang*.[126]

From these two passages, we can infer that upward, bright, waxing, warming and active attributes correspond to *yang*, and that downward, muted, ebbing, quiet, cool and slow attributes correspond to *yin*. Thus, the notion of correspondence, so important to the medicine of the Han, are set out. Equally important to the understanding of medicine is that *yin* and *yang* are defined in relation to each other, and that the properties of each become discernible in relation to the qualities of the other. To illustrate, consider a sun veiled with dark cloud in early evening, and a full moon on a cloudless night. Brightness and darkness exchange as descriptions of these scenes.

Shanghan, or cold damage, is the topic to which Zhang Zhongjing's *Shanghan lun* 傷寒論 (Cold Damage Treatise) is devoted. The text describes *waigan bing* 外感病 (externally contracted disease), offering a conceptual framework for the causes and manifestations of *shanghan* illness. It posits outside evils, most potently wind and cold, which invade the body and cause illness. It has antecedents in the *Suwen,* such as that in chapter 31 which states:

> Now, as for heat diseases, they are all of the type 'harm caused by cold'.[127]

This statement clearly sets out the understanding in *shanghan* theory that all febrile illness comes about as a result of an attack upon the body by cold. The concept is repeated later.

> When a person is harmed by cold, then the disease he develops is heat. [128]

The *Nanjing* 難經 (Classic of Difficulties) sets out five types of *shanghan* in the 58th difficulty.

> 然傷寒有五有中風有傷寒有濕溫有熱病有溫病。
>
> Thus, there are five [kinds of] cold damage: wind strike, cold damage, damp warmth, heat disease, and warm disease.[129]

In the introduction to their translation of the *Shanghan lun*, Mitchell, Feng, and Wiseman write that

> the broad meaning of cold damage is all externally contracted disease; the narrow meaning is external contraction of wind-cold and the resultant diseases.[130]

The difference between these two definitions of *shanghan* and the identification of febrile diseases not subsumed under the narrow understanding of *shanghan* inspired much of the development of *wenbing* 溫病 (warm disease) theory. In Chapter 5, we will see that the development of *wenbing* theory was significant to the increasing use of tongue inspection as a diagnostic practice.

---

126 Ibid., p.140, [*Suwen,* Beijing 1983, 7-53-3].
127 *Suwen*, 1983, 31-183-2 [in Unschuld *et al.* 2011, p.491].
128 *Suwen*, 1983, 31-183-6, [in Unschuld *et al.* 2011, p.492].
129 *Nanjing,* [Unschuld, 1986, p.515.]
130 Mitchell, Feng, Wiseman, 1999, p.9.

With at least an elementary understanding of *yin, yang* and *shanghan,* we can now turn an informed attention to the case indicated above which was recorded in the 12th century and is found in the *Mingyi lei'an* 名醫類案 (Case Records of Eminent Physicians).

The *Mingyi lei'an* is an encyclopaedic anthology of the case records of famous physicians compiled during the Ming dynasty in the 16th century by Jiang Guan 江瓘 (1503–1565). One of the cases in the anthology presents the difficulty encountered in attempting to arrive at a diagnosis of a patient whose weak pulse suggested a *yin* pattern illness.[131] The physician Guo Yong 郭雍 (1106–1187)[132] treated a man who had become ill with *shanghan* following immersion in cold water after sex. Physicians had treated him with warming drugs, but his conditioned worsened. Guo Yong felt his pulses and declared that though they were weak and deep, this was due to the patient's inability to sleep, and he was in fact suffering from a *yang* excess pattern illness with heat. A cooling and draining prescription was administered and the patient recovered.[133] The deceptively obvious pulse presentation masked an underlying elusive feature.

It is exactly this ability to discern the elusive features of a pulse that could only be acquired through years of clinical practice. It set the experienced physician apart from the increasing ranks of doctors steeped in textual theory but lacking the practical ability to identify a deceptive quality on the pulse. The haptic refinement required in order to arrive at an accurate diagnosis through pulse palpation in such a case was considerable.

As we will see in Chapters 4 and 5, various factors contributed to the increasing numbers of the gentry turning to medicine for a career from the Song dynasty onwards. As the numbers of experienced physicians did not increase at anything like the same rate, the opportunity to apprentice with a physician of some repute became increasingly scarce. With a shortage of clinical mentors, more and more of those entering the profession of medicine were thrown back onto textual resources and private study alone. It is possible to imagine the immense attraction that a 'quick and easy' diagnostic aid, such as the illustrated tongue text, would have had for these inexperienced doctors.

Tongue qualities are clear and readily categorized. White, yellow or black surface coatings cannot easily be confused with each other, nor can a pale tongue body be mistaken for a bright red one. Dryness or wetness, the presence or absence of fissures and tongue deviation or the lack of it are among diagnostic qualities that can be unmistakably depicted with images. Referencing the tongue images, the associated disease presentation could be determined with equal ease by a novice practitioner or a skilled physician of long experience.

---

131 The weak presentation of the pulse would normally be associated with a *yin* conformation, suggesting a need for tonification; a strong and full presentation would typically suggest *yang,* in which case one would not tonify.

132 Author of the *Shanghan buwang lun* 傷寒補亡論 (Supplementing what is Missing in Cold Damage) 1181.

133 *Mingyi lei'an,* 2011, p.36, col. 2.

While I will describe the *Aoshi shanghan jinjing lu* in detail in Chapter 3, a further look at the tongue image in Fig. 1 (above), and the accompanying text and drug recipe will highlight the tongue text's ability to function as a diagnostic tool.

The image is entitled *baitai she* 白胎舌 (white coated tongue)

The drawing of the tongue shows the centre inscribed with *baitai* 白胎 (white coat), and an area at the tip of the tongue inscribed *danhong* 淡紅 (light red). The text follows.

> 舌見白胎滑者邪初入裡也。 丹[田][134] 有熱胸中有寒乃少陽半表半裡之證也。宜用 小柴胡湯, 梔子豉湯 治之。
>
> The tongue manifests a white, slippery coat. The evil pathogen is just beginning to enter the interior. The *dantian*[135] has heat, the chest has cold. This is evidence of *shaoyang*[136] half exterior, half interior [pattern]. It is appropriate to use *xiao chai hu tang* 小柴胡湯 (Minor Bupleurum Decoction) and *zhi zi chi tang* 梔子豉湯 (Gardenia and Prepared Soybean decoction) to treat it.

Knowledge of the drug recipe treatment is not assumed, as the ingredients, their dosages, method of preparation and manner of administration are all detailed.

In this short bit of text and illustration, a physician would be provided with the location of heat and cold within the patient's body (the *dantian* and chest), a pattern of disease theory (*shaoyang),* and the time frame (just beginning) of the illness. These were all made explicit, and the drug recipes that would treat it were given.

Such a tongue image would very usefully illustrate a rather detailed synopsis of illness and treatment recommendation. For an experienced physician the explanation might correspond to a well-known disease presentation which now also had a useful pictorial dimension. But it is also easy to imagine that the same image could allow a practitioner with meagre experience in clinical treatment to simply 'cut to the chase'.

---

134 The character in the 1341 text is 日 *ri*, but in subsequent later editions, the character 田 *tian* (cinnabar field) is used. Scholars generally consider it to be a misprint in the early text. Given the context, the reference appears to be to a condition of cold in the upper body, with heat in the lower body, for which the characters 丹田 *dan tian* (cinnabar field) would indeed be appropriate.

135 Variously translated as the *Cinnabar field* or the *elixir field* or *sea of Qi*, the *Dantian* is commonly located in the abdomen, slightly below the navel, and is an important centre for the body's storage of Qi. There are upper (forehead), middle (chest), and lower (abdomen) *Dantian* sites, but when not specified, the reference is usually taken to be the lower *Dantian*.

136 *Shaoyang* 少陽 (Lesser yang) is one of the six channel-associated patterns of illness that may present following an invasion of the body by an external evil. Its signature feature is said to a 'half-in, half-out' quality, in which an invading external influence is not fiercely active, but is already identifiably interior. These six channels and their associated organs are: *taiyang* 太陽 (greater *yang*)/Bladder and Small Intestine; *yangming* 陽明 (*yang* brightness) /Stomach and Large Intestine; *shaoyang* 少陽 (lesser *yang*)/ Gall Bladder and Triple Burner; *taiyin* 太陰 (greater *yin*)/Spleen and Lung; *shaoyin* 少陰 (lesser *yin*) /Heart and Kidney; *jueyin* 厥陰 (reverting *yin*) /Liver and Heart Protector. Each of the six patterns exhibits characteristic symptoms and pulse presentations. While disease is described as moving from the most exterior (*taiyang*) to the most interior (*jueyin*) patterns, an ordered progression through the six patterns during the course of an illness is by no means necessary.

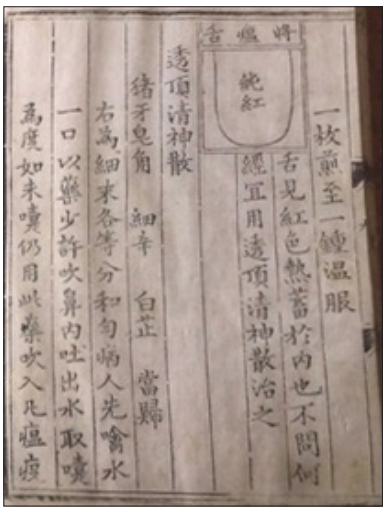


Figure 5 From a 1529 edition of Xue Ji's *Xueshi yi'an* 薛氏醫案, showing a pure red tongue and prescribing *Touding qingshen san* 透頂清神散 (Extremely Penetrating Clear the Spirit Powder). Courtesy of the archives of the Library of the Academy of Chinese Medicine, Beijing

In juxtaposition to the layered information accompanying the first tongue image, the text beneath the second image (Fig. 5) offers a simplistic 'see this, do that' instruction.

The image in Fig. 5, is entitled: *Jiang wen she* 將瘟舌 (Tongue of Epidemic Taking Hold). The accompanying text goes on to state:

> 舌見紅色 熱蓄於內也。不 問何經宜。用透頂清神散治之。
>
> The tongue manifests a red colour [which indicates] heat is amassing inside the body. Y*ou don't need to ask which channel. It is appropriate to use tou ding qing shen san* (Extremely Penetrating Clear the Spirit Powder). [Author's italics]

Here is an astonishingly clear and uncompromised statement that in some instances, the physician's subtle skills of pulse diagnosis, complexion diagnosis, channel and organ diagnostics, and theories of disease progression can all be set aside. All that is needed to treat some illnesses is the observation of a tongue matching this relevant image, and an appropriate herbal formula can be administered without doubt. Having such a clear and definitive course of action to follow during times of epidemic illness would have been invaluable to a novice practitioner.

While discussing the emergence of the tongue images and the development of a system of tongue diagnosis, it is fundamental to note that these drawings were not merely decorative additions to a theoretical process. The drawings were themselves able to function as tools for diagnosis. In short, they added performative value[137] for the practitioner. It is the identification of this function that lies at the heart of this thesis, in terms not only of diagnostic skill and the simplification of treatment, but also of the ease it conferred upon the process of knowledge transmission.[138]

---

137 Derrida,1988, pp.13–19; Mitchell, W.T.J. 1994; Azoulay, 2008, all grapple with the notion of how, as Laura Levin (2009) describes it, an image can exceed its frame, and have performative value.

138 The tongue images resonate with Harold Cook's work regarding the ease or difficulty with which different types of information can be transmitted. They also reflect Latour's argument that objects themselves hold agency as they participate in the creation of knowledge.

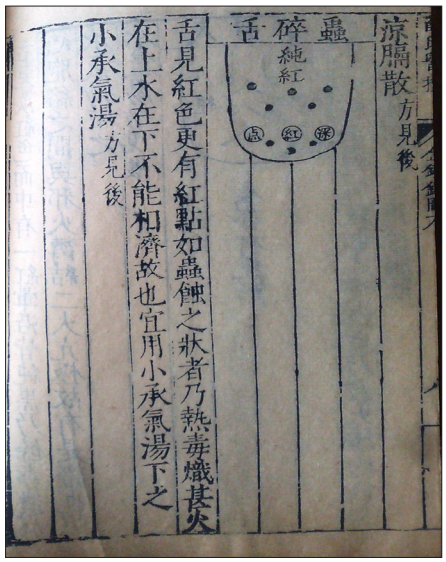


Figure 6 From the 1529 edition of Xue Ji's *Xueshi yi'an* 薛氏醫案 (Scholar Xue's Medical Case Records). It shows a pure red tongue with 'insect fragments' and prescribes *xiao cheng qi tang* 小承氣湯 (Minor Rectify Qi Decoction). Courtesy of the archives of the Library of the Academy of Chinese Medicine, Beijing.

Figure 7 From the 1529 edition of Xue Ji's *Xueshi yi'an* 薛氏醫案 (Scholar Xue's Medical Case Records). The image on the left, its explanation and drug recipes, are identical to the image, explanation and recipes found in the 1341 text depicted in Fig. 1 above. Courtesy of the archives of the Academy of Chinese Medicine, Beijing

Tongue Texts Become Part of Medical Compilations

During the Ming Dynasty the physician Xue Ji 薛己, style name Lizhai 立齋 (1487–1559) made a major contribution to the recognition and transmission of tongue diagnosis. In 1529 he authored a two-volume, 16-book compilation entitled *Xueshi yi'an* 薛氏醫案 (Medical Case Records of Scholar Xue). One of the books in this collection was the *Waishang jinjing lu*, 外傷金鏡錄 (Golden Mirror Record of External Damage). In it he includes the 36 tongue illustrations of the *Aoshi shanghan jinjing lu*, along with a preface and an endnote extolling the importance of the tongues, and commentaries on them (Figs 6, 7). The publication of this work and the prestige of its author undoubtedly did much to further the transmission of the tongue diagnostic text.[139] Yet it is important to note that Xue's inclusion of the tongue text had more to do with familiarising physicians with its existence than with any innovative behaviour on his own part due to his knowledge of the text and its information.

The Ming was also a time in which case records developed as a distinct genre of medical writing.[140] As will be discussed in Chapter 2, the advances in printing and the social and economic restructurings of Chinese society during the late Song and Ming facilitated the repro duction and dissemination of case records among physicians and the literate popula-

139 While the 36 tongues are part of one of the books in Xue Ji's compilation, it is noteworthy that tongue drawings are not an integral part of his case records.

140 Cullen in Hsu, (ed.), 2001, and Furth, Zeitlin and Hsiung, (eds) 2007 discuss the origins and development of the genre.

tion.[141] The compiling of case records became an intrinsic part of literate medical practice. My investigation of these records thus far suggests that Ming physicians nearly always palpated the pulse and frequently observed the complexion and listened to the voice of a patient. The inspection of the tongue, however, does not appear to be any more than an occasional feature of diagnosis in case records until very late in the Ming.[142] It is noteworthy that despite the flourishing of the *yi'an* genre, I have, thus far, not found any drawings of patients' tongues included in Ming case records.

Proliferation of Tongue Texts During the Qing Dynasty

The tongue diagnosis texts grew out of and at first accompanied the theories and prescriptions of the *Shanghan lun*, which posited a six-stage progression of illness in the body. Rather than rejecting this construct, physicians of the (late) Ming and Qing Dynasty expanded their bases for understanding the progression of disease. There were many innovative physicians, among them Wu Youxing 吳有性, style name Youke 又可, (*c.*1582–1652) who wrote the *Wenyi lun* 瘟疫論 (Treatise on Febrile Epidemics) and Ye Tianshi 葉天士 (1667–1745), also known as Ye Gui 葉桂, author of the *Wenre lun* 温熱論 (Treatise on Warm Heat). Shen Douyuan 申斗垣 (*fl.* early 17th century) compiled the *Shanghan guanshe xinfa* 傷寒觀舌心法 (Technique for Observing the Centre of the Tongue in Cold Damage), which wove together existing tongue presentations associated with the six-stage progression of the *Shanghan lun* and the emerging *wenbing* theories. He ranked the colours of the body of the tongue, and emphasized the importance of the red tongue.

These physicians were among those who reworked ideas about the causation of febrile illness, implicating climatic pathogens and developing treatments that differed from the traditional *shanghan* theories. Their work led to the construction of a disease theory known as *wenbing* 溫病 (warmth factor illness),[143] the development of which, as we will see in Chapter 5, coincided with the increased attention being paid to the presentation of the tongue.

Tongue Diagnosis Becomes More Comprehensive

Tongue texts, with an increasing range of illustration and commentary, flourished during the Qing dynasty. Images were recognized as a tool that could facilitate diagnosis of types and stages of febrile illness. But a second development in the depiction of the tongue was

141 For a discussion of the societal developments and stresses that impacted the practice of medicine in Ming China see Hymes, l987; Leung, 2003a; 2003b; and Brokaw, 2005.

142 A marked rise in tongue observation can be seen in encyclopedic collections of case histories from the *Mingyi lei'an* (1591) to the *Xu mingyi lei'an* (1772).

143 Marta Hanson, 2011, provides an in-depth account of the development of *wenbing* theory. See also Chao Yüan-Ling, 2009; Zhang Zhi-bin 張志斌; 2008. 中華醫史雜誌, 2008, 38(04): 195–199.

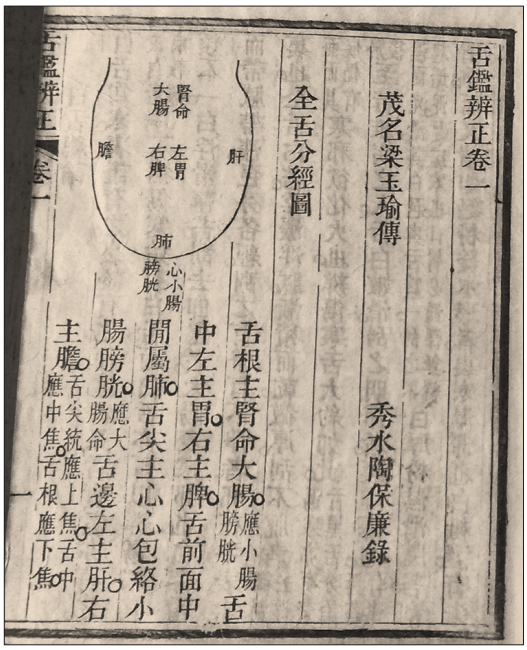


Figure 8 This image is entitled Quanshe fenjing tu 全舌分經圖 (Complete Tongue Map of Channel Distribution) and sets out the mapping of internal organs [and their channels] onto specific areas of the tongue. From a Qing Dynasty text, *She Jian Bian Zheng* 舌鑑辨正 (Tongue Mirror for Diagnosis and Treatment), 1894. Courtesy of the archives of the Library of the Academy of Chinese Medicine, Beijing

truly transformative: the entire array of the body's internal organs was mapped onto the tongue.

The tongue image shown in Figure 8 is inscribed with organ names that correlate with specific areas of the tongue. The image shows that the tip of the tongue is the area that relates to the Lungs, Heart, Small Intestine and Urinary Bladder. The sides of the tongue correspond to the Liver and Gall Bladder, and the centre is inscribed with right side Spleen and left side Stomach. The root of the tongue is associated with the Large Intestine and the Kidneys. The accompanying text follows.

> 舌根主腎命大腸（應小腸膀胱）；舌中左主胃，右主脾；舌前面中間屬肺，舌尖主心心包絡小腸膀胱（應大腸命）；舌邊左主肝，右主膽（舌尖統應上焦，舌中應中焦，舌根應下焦).
>
> The tongue root indicates the Kidney, the Ming[144] and the Large Intestine[145] [should indicate Small Intestine and Urinary Bladder.] The left centre of the tongue indicates the Stomach. The right [centre] indicates the Spleen. The centre space at the front of the tongue belongs to the Lung. The tongue tip indicates the Heart and Heart Protector channels, the Small Intestines and Urinary Bladder. [should be Large Intestine and Ming], the left side of the

144 命 *ming* here is a reference to the 命門 *mingmen* (vital, or life gate), an area of the body located between the kidneys, to which it is closely related. Understood to contain both water and fire, it is an important theoretical concept which I very simply describe here as the *yin* and the *yang* aspects of the Kidneys.

145 Interestingly, in contemporary tongue mapping we are likely to see the Large and Small Intestine, as well as the Urinary Bladder and Kidney, associated with the area at the root of the tongue. While this offers a cause for discussion, it is not particularly problematic, as there are also diagnostic variations of associated organ positions connected with the taking of the pulse at the radial artery. Divergent associations appear to have gained primacy at different times and with different practitioners. This tongue image, along with its added commentary, reflects such variations. Also, the assignment of the tip, centre and root of the tongue to the upper, middle and lower burners of the body reflects the *sanjiao* 三焦 (three burners) model found in the Neijing, which differs from the *liu jing* 六經 (Six Warps) model of the *Shanghan lun.* These differing conceptual constructs allow a rich layering of diagnostic insights, as we will see later in the case records of Ye Tianshi.

> tongue indicates the Liver. The right indicates the Gall Bladder. [The tongue tip begins a sequence, it corresponds to the upper burner. The tongue centre corresponds to the middle burner. The tongue root corresponds to the lower burner.]

As a direct result of this organ mapping, the entire framework of Chinese medicine's diagnostic theory could now align with the presentation of a patient's tongue. A vast range of bodily illnesses could be inferred from changes that were objectively observable on distinct areas of the tongue. The implications for diagnosis were enormous. Tongue appearance could be relevant not only for epidemic or febrile illnesses, but for most conditions of 'unwellness'. Fissures on the surface geography of the tongue, for instance, could not only identify dryness from fevers, but if located in the centre of the tongue could indicate a dearth of fluids or moisture in the stomach and a condition of *yin* deficiency. Ulcerations on the edges of the tongue did not only appear with life threatening epidemics, but with types of more chronic conditions of internal 'heat' or 'fire' which impacted upon the functioning of the Liver.

Observation, Illustration, and Chinese Tongues in Europe

While I have been concentrating on the development of tongue diagnosis within China, the critical last section of the thesis examines the continuity of innovations that occurred around tongue diagnosis in the encounter between Europe and China. Images of the tongue made at least one very early journey westward. Despite the fact that the underlying paradigms of Chinese medical theory remained distinct from the European understandings of illness and health, there was considerable interest in how Chinese medicine understood the body.

By the late 17th and early 18th century, European medicine was increasingly observational and clinical,[146] and what has been called 'a sometimes fractious but collaborative effort between the Jesuits in China and the Dutch and German medical employees of the VOC, or Dutch East India Company in Asia'[147] gave Europeans the first publications of and commentaries on Chinese medical texts.[148] Much has been written about Jesuits in China during the Ming and Qing dynasties. To be sure, their contribution to western understanding of Chinese language and culture is difficult to overestimate.[149]

---

146 This state of medicine and the increasing focus on observation in Europe from the 17th through the 19th centuries will be discussed further in Chapter 6. For an overview of the rise of hospital medicine in Europe and Britain which spurred observational practice, see Thompson and Goldin, 1975; Risse, 1987, in Porter and Wear (eds), pp.175–203, and McMenemy, 1964, in Poynter (ed.) pp.43–71 ; Spary, in Jackson, (ed.), 2011, p.92; Porter, in Porter, (ed.), 2006, pp.83–86, among others.

147 Cook, in Günergun and Raina, (eds), 2011, p.211.

148 For insights into the operations of the VOC as they facilitated the early transmission of Chinese medicine to the west, see Cook, 2007, 2011, and 2014; Barnes, 2005, and Bruijn, 2009, among others.

149 Numerous authors have elucidated the work of the Jesuits in China. A small selection of these are

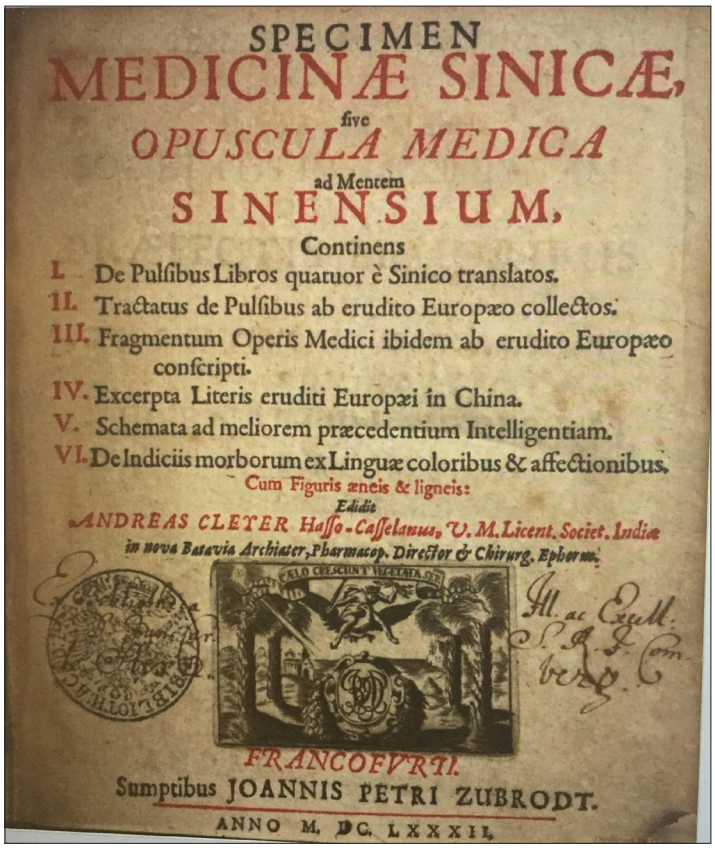

SPECIMEN
MEDICINÆ SINICÆ,
sive
OPUSCULA MEDICA
ad Mentem
SINENSIUM.
Continens
I. De Pulsibus Libros quatuor è Sinico translatos.
II. Tractatus de Pulsibus ab erudito Europæo collectos.
III. Fragmentum Operis Medici ibidem ab erudito Europæo conscripti.
IV. Excerpta Literis eruditi Europæi in China.
V. Schemata ad meliorem præcedentium Intelligentiam.
VI. De Indiciis morborum ex Linguæ coloribus & affectionibus.
Cum Figuris æneis & ligneis:
Edidit
ANDREAS CLEYER Hasso-Casselanus, U. M. Licent. Societ. Indiæ in nova Batavia Architator, Pharmacop. Director & Chirurg. Ephorus.
FRANCOFVRTI.
Sumptibus JOANNIS PETRI ZUBRODT.
ANNO M. DC. LXXXII.

Figure 9 Cover of the Cleyer text. Section VI, which depicts 36 tongues, is a rough translation of the *Jinjing lu*. Courtesy of the archives of the Countway Library of Medicine, Boston, MA

Of particular interest to this dissertation is the connection between a Jesuit with a particular interest in the diagnostics of Chinese medicine and a VOC ship's surgeon. Their relationship produced an intriguing tale of textual authorship and transmission, and became the conduit for the appearance of a tongue diagnostic text in Europe.[150] I will show that this text arrived in Europe during a period of dynamic development in European medicine. I will demonstrate that the incidences of tongue inspection in British medicine in the time frame before the arrival of this Chinese text were scattered and unsystematic, and that in the decades following its arrival, tongue inspection featured more prominently in clinical practice. Indeed, it became a pervasive diagnostic feature by the 19th century.

There are documented connections between the medical practices of China and their influence on western practitioners.[151] European interest in Chinese medicine's use of acupuncture and moxa, as well as diagnosis according to the pulse are aspects of medical practice that have attracted considerable scholarly interest and provided insights into the reception

Boxer, 1953; Barnes, 2005; Cook, 2011; Ebrey, 2010; as well as Matteo Ricci, S.J.'s journals, in translation, Gallagher, 1942.

150 The sixth section of this text, the *Specimen Medicinae*, was based on the *Jinjing lu*, translated into Latin, and published by Andreas Cleyer in Frankfurt in 1682.

151 The work of John Floyer on Chinese pulse diagnostics which will be discussed further in Chapter 6 is one such, and in fact his interest focuses on the information in the *Specimen*.

of Asian medicine in Europe. The practice of diagnosis according to the appearance of the tongue has not benefitted from the same level of investigation, and I have not yet found any direct link between early publications on Chinese tongue diagnosis and the practice of individual western physicians. However, I suggest that the current inability to establish a definitive connection between the publication of the *Specimen* and the later widespread inspection of the tongue during European clinical encounters should not hinder future investigation as to possible links.

Chapter Outline

Having introduced my topic thus far, I will proceed in Chapter 2 with a chronological view of the received literature on the significance, or lack thereof, of the tongue in Chinese medical literature. As I have already described in detail above, the assumption that tongue diagnosis has a history as long as China, has been pervasive until now. This dissertation is therefore revolutionary for the way in which it challenges the status quo, not only for China, but also for the history of medicine worldwide where an investigation of the relative antiquity of tongue diagnosis is a lacuna in the history of European medicine. In order to set out an appropriate chronology of medical approaches to the tongue it is first necessary to provide a rich context to the history of Chinese medicine.

Chapter 3 presents and translates the *Aoshi shanghan jinjing lu* 敖氏傷寒金鏡錄 of 1341. In the second part of that chapter, I will describe the history of this text and discuss the role of its images to the information conveyed, the likely audience for the text and the revolutionary diagnostic use to which it could be put. The drug recipes associated with the tongue presentations in the *Jinjing lu* originate primarily in the *shanghan* corpus, but we will see that there are also recipes with a later provenance. This indicates that tongue appearance had begun to transcend its ties to shanghan disease and become relevant to the emerging discourse around wenbing illness, an innovation which I have introduced above.

In Chapter 4, I explore the origins of case records, and present one of the earliest extant cases which is part of a compilation authored by Chunyu Yi 淳于意, a physician of the Han dynasty. By the Song dynasty, we will see that the government instituted reforms that transformed medicine on several levels. Among these were the institutionalisation of medical training, the establishment of the imperial pharmacy and the work of physicians and scholars in the Imperial Medical Academy, through whose efforts many texts nearly lost during the previous political upheavals were transcribed or printed. Aided by the technique of woodblock printing, the Song saw a proliferation of more accessible and widely distributed medical texts. Of these, I will present a case recorded by a Song physician, Xu Shuwei 許叔微 (1079–1154), who concerned himself with the *yin* and *yang* aspects of his patient's shanghan illness, demonstrating the use of case histories to expound upon theory in the context

of practice. Using medical treatises, biographies of physicians and case records, this chapter will introduce subsequent medical discourse around the adequacy of existing strategies for treating patients within the increasingly severe epidemic environment in which medical professionals found themselves working.

In Chapter 5, we will see the development of the genre of case records, including those compiled by individuals as well encyclopaedic collections. I will chart the rising prevalence of tongue inspection, and we will see a nuanced progression of the tongue's significance in the innovative response to the progression and treatment of febrile illness. In particular, case records of two innovative physicians closely associated with the development of *wenbing* 瘟病 (warmth factor illness), Ye Tianshi 葉天士 (1666–1745) and Wu Jutong 吳鞠通 (1758–1836), will provide fertile ground for this analysis.

By the 17th century, global trade routes, particularly sea routes, were moving people, ideas and objects around the world in unprecedented fashion. In Chapter 6, I will introduce the 1682 European publication of a text on Chinese medicine that included a discrete section on diagnosis according to the presentation of the tongue. The striking similarities in both image and text between this Latin language publication and the *Jinjing lu* provide an opportunity to explore the transcultural history of medicine. There was great popular European interest in things Chinese during the 18th century, and by the end of that century, we see that tongue inspection became an increasingly standard part of the tool box of the European physician. By the 19th century, we see novel charts of the tongue's diagnostic significance appearing in England. In this way my thesis contributes to transnational history of medicine studies by demonstrating how the reception of Chinese medicine was subject to European debates on appropriate and effective practice.[152]

Since the 1990s, historians of science and medicine have been more concerned with the local, spatial and social characters of scientific enterprise than with positivist histories of influential European male figures and their achievements; while all of the protagonists identified as key actors in this thesis are male, and most are literati, I hope that this work will go some way to redress the Eurocentrism of existing accounts and to contribute to a more nuanced account of the global history of medicine.[153] China has always been an open empire, and the notion that its science developed in isolation from the rest of the world is long out of date.[154]

---

152 See Bivins, 2000; Cook, 2007; Szczesniak, 1954. While I concentrate on the aspect of tongue inspection in this dissertation, in Chapter 6 we will see that other practices of Chinese medicine, such as pulse palpation and the use of moxa attracted interest among practitioners of medicine in Europe.

153 Finnegan 2008, pp.369–388.

154 Important contributors to these new histories include Lo and Cullen 2005; Zhan, 2009; Hinrichs and Barnes 2013; Nappi 2013, among many others.

Chapter 2

Textual Evidence of Tongue Inspection in Early Writings

'The past is never dead. It's not even past.' William Faulkner[1]

Han Texts

Chinese medicine offers historians a plethora of manuscripts and received texts which are an indispensable record through which we can attempt to reconstruct the past and look for the development of medical practice. My search for the story of tongue inspection's rise from an incidental aspect of a medical encounter to a major diagnostic tool is centred in the textual history of Chinese medicine. From the classical texts of the Han 漢 dynasty, to the case records of the Ming 明 and Qing 清 physicians, writings about medical theory and practice offer insights into reasons why tongue appearance might be recorded. This chapter will introduce some of those texts and interrelated case records, and show, in a short history of disease in China, how physicians and medical writers constructed systematic theories about the nature of the body. Theories do not emerge spontaneously, and as a background to the forthcoming argument I will summarize the changing social and cultural pressures, particularly after the Song, which inspired medical innovation and which impacted upon physicians' increasing interest in the presentation of the tongue in medical practice. While early writings note tongue appearance as a prognostication of impending death, and it is initially associated diagnostically with most frequency in cases of febrile illness, we will see that the relevance of tongue presentation broadened over time.

It was during the second dynastic period of China, the Han period, that a system of correspondences through which the world could be understood and through that understanding, manipulated, gained a certain maturity and political authority. While that system had emerged through the world of diviners, fortune tellers, geomancers, and through calendrical science, it began to structure kingly ritual in the late Warring States and strategically in the court of the first emperor of China, evident in *Lüshi chunqiu* 呂氏春秋 (Mr Lü's Spring and Autumn), an encyclopedia of ritual and statecraft, (*c.*239 BCE) compiled under the auspices of Lü Buwei 呂不韋 (290–235 BCE).[2] Over the four centuries or so of Han rule it was adopted into the structure of medical thinking so that medical terminology began to reflect the principles attending the socio-political structures of the state and its rituals. The language surrounding *yin* 陰 and *yang* 陽, the five phases, channel structure and organ functions all bears testimony to this history.

---

1 Faulkner, [1951] 2011, p.74.
2 Knoblock and Riegel 2000; Lo, 2010.

The earliest surviving correspondences with *yin* and *yang* were unearthed from the, now famous, Mawangdui 馬王堆 tomb 3, in modern Changsha, Hunan province.[3] Since the late Warring States and early imperial period, tombs have been continuously excavated, and provide us with a rich resource with which early Chinese medical innovations are being reconstructed. The *yin* and *yang* correspondences were not, in that context associated with medicine, and even a cursory glance through them will reveal how they reflect a moment in time where complimentary oppositions reflect contemporary social norms. The 'guest' and 'host', 'ruler' and 'subject' seem to codify relationships of power at the courts of the kings, and the 'older brother' – 'younger brother', 'man'-'woman' pairs are representative of long standing social relationships.[4] Conspicuously absent for the purposes of this dissertation, at this time, is the duality of 'hot' and 'cold', and it is only implied by the complimentary opposition of 'summer' and 'winter', which underlines the fact that these are *not* medical priorities since the thermonature of the body is a critical factor in any medical treatment.

In the same tomb were discovered medical manuscripts which describe a nascent channel theory where the body's topography was also delineated according to *Yin* and *Yang*, although without any substantial reference to strategic locations for the insertion of needles, or needling stones as were first used to adjust and harmonize the body.[5] It is clear, from this evidence, and evidence from tombs along the course and hinterland of the Yangzi river, that medical theory was quickly developing between the two Han periods known as Western and Eastern Han that span the turn of the millennium.[6]

The fact that similar texts turn up in different tombs has provided a rich resource for research into the transmission of medical knowledge at the time, and the processes through which the received canons of medical knowledge, the *Huangdi neijing* 黃帝內經 (Yellow Emperor's Inner Canon, hereafter *Neijing*) corpus came into being at a time that, recent academic consensus maintains, was in the two centuries that bridged BCE to CE.[7] These were the works that formed the corpus that set out the classical themes of Chinese medicine later rearranged by editors into three sections, forming separate books: *The Basic Questions (Suwen), The Numinous Pivot (Lingshu),* and *The Grand Basis (Taisu).* Even though the recensions of this work are compiled under treatise titles from disparate texts, and are there-

3 *Mawangdui hanmu boshu* 馬王堆漢墓帛書, 1984. Mawangdui Hanmu Boshu Zhengli Xiaozu 馬王堆漢墓帛書整理小組, (ed.), Beijing: Wenwu.

4 Lo, 2013.

5 Harper, 1998.

6 The most significant discoveries of medically related manuscripts were found in Mawangdui 馬王堆 tomb 3 (Changsha guo, present-day Hunan; closed 168 BCE, excavated in 1973), Zhangjiashan 張家山 tomb 247 (Nanjun, present-day Hubei; closed 186 BCE, excavated 1983–84), Shuihudi (Yunmeng, Hubei, *c.*217 BCE, excavated in 1975), and Wuwei (Gansu, 1st century CE, excavated in 1959). For the Zhangjiashan manuscripts see Lo, 2014.

7 Loewe, (ed.), 1993, pp.196–215.

fore often contradictory, it is at this point that we can find enduring theories of *yin* and *yang* that shaped medical practice thereafter.

Table 1 ***Yin*** **and** ***Yang*** **Correspondences from the Mawangdui Tomb**

Yang	***Yin***
Heaven	Earth
Spring	Autumn
Summer	Winter
Day	Night
Big states	Small states
Important states	Unimportant stats
Action	Inaction
Stretching	Contracting
Ruler	Minister
Above	Below
Man	Woman
Father	Child
Elder Brother	Younger brother
Older	Younger
Noble	Base#
Getting on	Being stuck
Taking a wife	Mourning
Controlling	Being controlled
Guest	Host
Soldiers	Labourers
Speech	Silence
Giving	Receiving

Another omnipresent construct was that of the *wuxing* 五行, variously translated as 'five phases' or 'five agents', which signify both the material quality and dynamic relationships between Wood, Fire, Earth, Metal and Water, the fundamental constituents of the natural, social and astronomical world of the Han ritual and technology. Five phase theory described the movement, generative and control functions that were thought to exist between Wood, Fire, Earth, Metal and Water. The earliest sequence was the *ke* 克 cycle where the relationships were considered one of control: Wood to Earth, Fire to Metal, Earth to Water, Metal to Wood, and Water to Fire. These were part of a cycle of domination expressed politically where a victorious ruler would adopt the insignia of a particular phase, and its colours, in order to demonstrate that their succession was somehow the result of heaven's will.

Table 2 The Five Phases as they Relate to Medical Priorities

Phase	**Wood**		**Fire**	**Earth**	**Metal**	**Water**
Taste	Sour		Bitter	Sweet	Acrid	Salty
Colour	Green-Blue		Red	Yellow	White	Black
Activity	Birth		Growth	Transformation	Withdrawal	Storage
Weather	Wind		Summerheat	Dampness	Dryness	Cold
Direction	East		South	Centre	West	North
Season	Spring		Summer	Long Summer	Autumn	Winter
Organs	*yin*	Liver	Heart	Spleen	Lungs	Kidneys
	yang	Gall bladder	Small Intestines	Stomach	Large Intestines	Bladder

The phases were also said to generate or nourish each other, as for example Wood will generate Fire. Looking at the phases in the table above, as they come in sequence, they are generative: Wood, Fire, Earth, Metal, Water. There are numerous categories of the ritual 'fives' that came to be attributed to physiological dynamics in Chinese medicine as a reflection of ritual and political relations. Examples of these are the five evils of wind stroke, summer heat damage, food, drink and exhaustion damage, cold damage and dampness damage found in the *Nanjing* 難經 (Classic of Difficult Issues),[8] the five tastes, or flavours, of sweet, sour, bitter, acrid and salty,[9] and the five emotions of joy, anger, anxiety, rumination and fear.[10] In this way the systematisation of the body and its rhythms according to a culturally pervasive system of correspondences provided an enduring base which was to be interpreted and reinterpreted throughout the imperial period. We will see later in the thesis that these sequences of control and generation continued to influence the reasoning of physicians as they diagnosed the patients before them. But there were also theories of illness emerging in the Han period that were less concerned with a breakdown of the system as the cause of vulnerability to disease, and focused more on external factors.

The printed and widely circulated texts of Chinese medicine, particularly the canonized corpus, allow a somewhat thinner view of medical practice and its development than that portrayed in tomb texts. These later texts tend to reflect a more elite version of medical concerns, and would have been most widely referenced by palace physicians and those of a formally educated status. Literacy was not widespread in Imperial China, and physicians working in general practice outside the palace and its environs would have been more likely to have learned their trade through apprenticeship than by systematic study of canonical texts.

8 Anonymous (*c.*1st century BCE) 1991, pp.86–90.
9 Anonymous (*c.*1st century BCE)) 1991, p.87.
10 Anonymous (*c.*1st century BCE)) 1991, pp.33–35.

The Han 漢 dynasty is generally considered by historians to be the time during which Chinese medicine's theories of practice came to maturity and the principles of systematic correspondence,[11] five phases, *yin* 陰 and *yang* 陽, and channel theory were clearly established. The *Huangdi neijing* 黃帝內經 (Inner Canon of the Yellow Emperor)[12]and the *Nanjing* 難經 (Classic of Difficult Issues) are the canonical textual repositories of this medical thought. But with the succession of manuscript discoveries over the past 40 years in excavated tombs dating from the 4th to 2nd centuries BCE there is now an additional trove of source material. Among these manuscripts are copies of well-known classic texts, but there are also previously unseen medical works. Particularly pertinent to this dissertation are the Mawangdui medical manuscripts. They were part of a larger cache of tomb manuscripts discovered near the city of Changsha 長沙. A wooden tablet was found in the tomb, which dates the burial to 168 BCE. Scholars speculate that some of the editions of these texts would have circulated as early as the 3rd century BCE.[13] These medical manuscripts are significant in that they predate the earliest received classic of medical theory, the *Neijing*, and include recipe literature on subjects as diverse as exorcisms, surgical procedures, childbirth and the medical tradition of *yangsheng* 養生 (nurturing life).[14] They also make early reference to the tongue.

The *Yinyang shiyi mai jiujing, jiaben* 陰陽十一脈灸經甲本 (Cauterisation Canon of the Eleven Yin and Yang Vessels, text A) states that the Minor Yin vessel is 'attached to the kidney, and presses laterally on the tongue'. Among ailments that are produced by the Minor Yin vessel is 'tongue splitting'.[15]

In *Zubi shiyi mai jiujing* 足臂十一脈灸經 (Cauterisation Canon of the Eleven Vessels of Foot and Forearm), the foot minor *Yin* vessel 'emerges at the liver, enters the upper side, and is attached to the tongue'. Here, too, among the ailments listed is 'tongue splitting'.[16]

One text specifically concerned with the prognosis of death, *Yinyang maise jing* 陰陽脈色經 (Death signs of the *Yin* and *Yang* Vessels), states that 'when the tongue binds and the testicles curl up, muscle has died first'.[17]

---

11 The principle of systematic correspondence constitutes a framework in which medical theory reflects the principles attending the phenomena of the natural world and the socio-political structures of the state. It grew to encompasses constructs of *yin* and *yang*, the five phases, channel structure and organ functions. For a more detailed explanation, see Unschuld 1985, pp.67–100.

12 The *Huangdi neijing* (hereafter cited as *Neijing*) combined treatises (*c.*1st century BCE) of the *lingshu* 靈樞 (Divine Pivot), *Suwen* 素問 (Basic Questions), and *taisu* 太素 (Grand Basis) are generally considered to contain the core theory of traditional Chinese medicine. This text was compiled by unknown authors most probably during the 1st century BCE.

13 See Harper, 1998, p.37 for a discussion of the dating of the Mawangdui manuscripts.

14 For a discussion of *yangsheng* in the Dunhuang manuscripts, see Lo, in Lo and Cullen,2005, pp.207–223.

15 Harper 1998, p.210.

16 Harper 1998, p.211.

17 Harper 1998, p.220.

These three tomb texts hint at elementary correlations between the tongue and the new physiological medicine that emerged in the late Warring States 戰國 (475–221 BCE) and early Han Dynasty period. They describe an early concept of body vessels, the connection of these vessels and their trajectories to internal organs, and they begin to refer to disease as the result of the slow breakdown of a state of internal harmony rather than the revenge of a displeased ancestor, an angry spirit, or a sudden attack of environmental wind or cold. They do not demonstrate the sophistication found in later classical compilations of acupuncture theory, in which the body vessels figure as the foundation of various theories about the circulation of *qi*.

By the time of the *Jingmai* 經脈 (Conduit Vessels) treatise in the *Lingshu* recension of the *Neijing*,[18] the anatomical planes of the vessels are clearly linked with the internal organs and there is an elaborate system of correspondences in place that begins to systematize pulse and complexion diagnosis.[19] The organs of the body are differentiated according to their functions and spheres of influence.[20]

There are still however only a handful of references to the tongue within this text's vessel/organ correlative framework, and there are but scattered references connecting this framework directly to the tongue and noting its colour and dryness.

> The center; yellow color. Having entered it communicates with the spleen. It opens an orifice in the mouth. It stores essence in the spleen. Hence, the disease [it brings forth] is at the base of the tongue[21]

> The heart rules the tongue.[22]

> Among the depots it is the heart; among the colors it is red; among the tones it is *zhi*; among the voices it is laughing; among the movements [indicating] changes it is anxiety; among the orifices it is the tongue; among the flavors it is bitter; among the states of mind it is joy.[23]

> When the [*qi* of the] ceasing *yin* [vessel] is finished, central heat and a dry throat [result]. One has a tendency to urinate. The heart is vexed. In severe cases the tongue curls up.[24]

> When the beating in the vessels of the heart is firm and extended, [the patient] must suffer from a curled tongue and from an inability to speak.[25]

> [For treatment] select the respective conduits, [namely] the minor *yin* and the major *yang* [conduits], and pierce those [with] blood below the tongue.[26]

---

18 The combined treatises (*c.*1st century BCE)of the *Huangdi neijing lingshu* 黃帝內經靈樞, *Huangdi neijing suwen* 黃帝内经素问, and *Huangdi neijing taisu* 黃帝内经太素 (hereafter cited as *neijing*) are generally considered to contain the core theory of traditional Chinese medicine.

19 For a discussion of complexion diagnosis, see Despeux in Lo and Cullen, 2005, pp.176–201.

20 Lo, 2002, p.xxv.

21 Unschuld, Tessenow and Zheng, 2011, vol I, p.92 [4-26-3]

22 Ibid., vol I, p.107 [5-36-3] *Neijing suwen* 2 (5 'Yin Yang ying xiang da lun').

23 Ibid., vol I, p.108 [5-36-3] *Neijing suwen* 2 (5 'Yin Yang ying xiang da lun').

24 Ibid., vol I, p.271 [16-96-4] *Neijing suwen* 4 (16 'Zheng yao jing lluo lun').

25 Ibid., vol I, p.288 [17-103-4] *Neijing suwen* 5 (17 'Mai yao jig wei lun').

26 Ibid., vol I, p.395 [22-146-6] *Neijing suwen* 7 (22 'Zang qi fa shi lun').

> The minor *yin* vessels penetrate the kidneys and enclose the lung. They are attached to the base of the tongue. Hence, the mouth is desiccated and the tongue is dry, and one has thirst.[27]

> On the 11th day, the disease in the minor *yin* [conduits] weakens. The thirst stops and there is no [longer a feeling of] fullness. The dryness of the tongue ends and [the patient] sneezes.[28]

> When the Lung has a heat disease, at first [the patient] shivers, there is receding [qi] and the finest body hair rises. [The patient] has an aversion to wind and cold. The upper surface of the tongue is yellow. The body is hot.[29]

> The true *qi* rises contrary [to its regular course]. Hence, the mouth has a bitter [taste] and the tongue is dry.[30]

> If it [disease] does not end [after a third piercing], pierce the two vessels below the tongue and let blood. If it [still] does not end, pierce the conduit abounding [with blood] in the cleft and let blood. Also pierce below the nape on both sides of the spine. This must cause [the disease] to end. {As for 'the two vessels below the tongue,' these are the Ridge Spring [holes].}[31]

> When it is the shining *yang* vessel that lets a person's lower back ache, [then there is] pain pulling on the breast. The eyes are unclear. In severe cases [patients] are bent backwards and their tongue curls up and they cannot speak.[32]

> The network [vessel] of the uterus is tied to the kidneys. The minor *yin* vessel penetrates the kidneys and is tied to the base of the tongue.[33]

> There is one [hole where the *qi* is effused] each on the foot minor *yin* [vessels] below the tongue… .[34]

> There is one each [holes where the *qi* is effused] on the foot minor *yin* [vessels] below the tongue, and on the tense vessels of the ceasing *yin* [vessels] in the [pubic] hair.[35]

Interesting correlations have clearly been made in the *Neijing* in terms of, for instance, specific channels connecting with the tongue physiologically, and these same channels and their associated organs being connected with specific tastes and colours. Yet one can hardly say that this is a system of tongue diagnosis such as one can find in modern textbooks.[36]

By the end of the period during which the foundations of classical medicine were set out, the *Nanjing* 难經, often considered the work that represents 'the apex, and also the conclu-

---

27 Ibid., vol I, p.494 [31-184-4] *Neijing suwen* 9 (31 'Re lun').
28 Ibid., vol I, p.495 [31-184-7] *Neijing suwen* 9 (31 'Re lun').
29 Ibid., vol I, p.503 [32-187-6] *Neijing suwen* 9 (32 'Ci re lun').
30 ibid., vol I, p.525 [33-197-4] *Neijing suwen* 9 (33 'Ping re lun').
31 Ibid., vol I, p.563 [36-210-5] *Neijing suwen* 10 (36 'Ci nue lun').
32 Ibid., vol I, p.620 [41-231-2] *Neijing suwen* 11 (41 'Ci yao tong lun').
33 Ibid., vol I, p.689 [47-259-6] *Neijing suwen* 13 (47 'Qi bing lun').
34 Ibid., vol II, p.71 [59-316-2] *Neijing suwen* 15 (59 'Qi fu lun').
35 Ibid., vol II, p.71 [59-316-4] *Neijing suwen* 15 (59 'Qi fu lun').
36 By way of illustration, *Neijing lingshu* 8 (17 'Maidu') makes reference to Heart and Spleen *qi* connecting with the tongue in a physiology associated with the sense of taste. Many Chinese articles emphasise these connections. See for example Chen and Lin, 1997, p.195.

sion, of the developmental phase of the conceptual system known as the medicine of systematic correspondence',[37] only makes sparse reference to the tongue in its 81 issues:

In the 24th issue:

足厥陰氣絕，即筋縮引卵與舌卷。

When the *qi* of the foot *jueyin* has been severed, the muscles will shrink, the testicles will be drawn in, and the tongue will curl back.

In the 37th issue:

心氣通於舌，舌和則知五味矣。

The *qi* of the heart connects with the tongue, [hence] when the tongue is in harmony, one knows the five tastes.

In the 42nd issue:

舌重十兩長七寸廣二寸半。

The tongue weighs 10 liang, the length is 7 cun, and the width is 2½ cun.[38]

In the 58th issue:

肌寒熱者，皮膚痛，唇舌槁，無汗。

When the flesh is affected by cold and heat, the skin will feel painful, the lips and the tongue will dry, and there is no sweating.[39]

All of these references in Han texts paint a picture of a time when the presentation of the tongue was noted with certain illnesses, with certain channel trajectories, with certain prognosticatory patterns, but not as an indicator of problems arising within particular organs, and certainly not as a paramount piece of diagnostic information.

In contrast, the theoretical and technical richness of pulse diagnosis is apparent in Han texts in a way that is at least recognizable (if far from identical) to the practice of pulse taking today. The palpating of the pulse is clearly the most important diagnostic skill in the *Neijing*, and while there are references to other methods, they are nearly always subsidiary or complementary. The chapter of the *Neijing* devoted to the pulse discusses the times recommended for taking the pulse, strictures about the bearing and inner condition of the doctor taking the pulse, seasonal variations and myriad qualities of the pulse's beat including numbers, length, force, size and depth.

37 Unschuld, 2016, p.1.

38 The modern weight and dimension equivalences here are 284gm in weight, 17.8cm in length, and 6.3cm in width.

39 Unschuld, 1986b, pp.305, 389, 418, 516. [see fn. 30].

> Hence it is said: Those who know the interior, they press [the vessels] and sort out their [inner movements]. Those who know the exterior, having ended they begin it. These six [patterns],[40] [they constitute] the grand law of feeling the [movement in the] vessels.[41]

In the midst of this extremely detailed chapter on pulse lore, there is just one reference to the tongue.

> 心脈搏堅而長，當病舌卷不能言。
>
> When the heart pulse beats hard and long, the corresponding illness makes the tongue curl up and the patient is unable to speak.[42]

Most telling, however, is that fact that there is no corresponding chapter on tongue diagnosis in the whole of the *Neijing* corpus.

Attributed Writing

The canonical works of Chinese medicine, such as those recensions of the *Neijing* corpus tend not to record their authors' names. But beginning with Zhang Ji張機,[43] style name Zhongjing 仲景 (*c.*150–219 CE),[44] who lived during the Eastern Han 東漢 (25–220 CE), individual scholar physicians would have a remarkable influence on the development of Chinese medical theory. Zhang Zhongjing is believed to have been born in Henan 河南 province, in today's Nanyang 南阳. Nothing is verifiable of his medical training, though he is clearly knowledgeable. We do know that the later years of the Eastern Han Dynasty were filled with war and that epidemics were rife. A contemporary of Zhang's, Cao Zhi 曹植 (192–232), notable for his literary pursuits, left us a record of the severity of these epidemics.

> In 217 CE, pestilential *qi* circulated. Every household suffered deaths; in every house [people] wailed and wept in grief. In some cases, [they]closed their doors and died; in other cases, an entire lineage perished and mourned.[45]

After an epidemic decimated his own town, Zhang wrote the classic and greatly revered treatise on febrile disease, the *Shanghan zabing lun* 傷寒雜病論 (On Cold Damage and

---

40 Commentary on this passage's use of the phrase six patterns is layered, and various interpretations are argued. For instance, Wang Bing 王冰 identifies the interior with the *qi* in the vessels and the exterior with the complexion. Consequently, the five colours of the complexion along with the *qi* in the pulse give us the six patterns. Gao Shishi 高世栻 refers to the contrasting deep and light pressure exerted on the patient's pulse by a physician to ascertain the state of the interior and exterior *qi*, and notes that this variation in pressure should be applied six times. For further discussion, see Unschuld *et al.*, p.288, fn. 67.

41 Unschuld *et al.*, 2011, p.288. [17-103-4].

42 Ibid.

43 I set aside for the moment the Han physician Chunyu Yi 淳于意 (*c.*215 BCE–?), whose biography is found in chapter 105 of the *Shiji* 史記 (Records of the Historian, *c.*86 BCE) and whose case record I will discuss later in this dissertation.

44 A style name, *zi* 字, would be given in adulthood, and was often the name by which a person was known outside family and close friends. This is in addition to the *xing* 姓 (family name) and *ming* 名 (given name, or first name).

45 *Caoji quanping* 曹集詮評 vol.2, *juan* 9, p.66, in Hanson, 2011, p.5.

Miscellaneous Diseases) which included a comprehensive formulary.[46] The sections of this text relating specifically to cold damage were reorganized during the Western Jin 西晋 dynasty (265–316) by Wang Shuhe 王叔和 (210–285) into the *Shanghan lun* 傷寒論. The sections of Zhang's text that related to other internal diseases, or *zabing* 雜病 (miscellaneous diseases) were later assembled to create the *Jingui yaolüe* 金匱要略 (Essential Prescriptions of the Golden Coffer*).*

While the *Shanghan lun* is not a case record, Christopher Cullen points out that 'No-one who reads the *Shanghan lun* …could fail to be convinced that Zhang's work is the result of deep and systematic reflection upon many individual cases',[47] and consequently some sort of record keeping must be presumed. I tend to agree with Cullen that Zhang Zhongjing was basing his theories and treatments on observation of the common patterns observable in large numbers of illness progressions. His treatise has a very observational tone, and presages the *wenbing* theorists whose work will feature later in this dissertation. Both Zhang and the later physicians who developed the *wenbing* 溫病 (warm disease) theories of illness were motivated by the catastrophic effects of widespread epidemics.[48]

Epidemic illness makes two particularly strident demands upon physicians. Firstly, they need to find rapid ways of dealing with individual illnesses *en masse*, and secondly, there is a need to frame the treatments devised within the patterns of medical understanding of the time. Zhang Zhongjing's particular contribution was to frame the suffering before him in terms of the cycles of *yin* and *yang*, and to demonstrate a pattern of illness progression that could be understood theoretically and recognized as useful in practice.

The *Shanghan lun* broke ground in another aspect of Chinese medicine, in that it is the first text to incorporate herbal medicinal therapy into the medicine of systematic correspondences and channel theory. It also correlates for the first time the causation factors for disease with individual bodies' resistance to them. It conceptualizes diseases in patterns, and it is these patterns, not named 'diseases', that it purports to treat. Its herbal prescriptions remain an integral part of contemporary formularies.

Liujing bianzheng 六經辨証 (six warps[49] pattern diagnosis), is the conceptual framework Zhang used to diagnose and select treatment for illnesses of exogenous origin. The names of these six warps and their related organs, in order of increasing severity of disease, are: *tai*

---

46 We will see later that this formulary is the source of the majority of drug recipes in the tongue text, the *Aoshi shanghan jinjing lu.*

47 Cullen, in Hsu, 2001, p.307.

48 the physicians who departed from the cold damage tradition of therapeutic interventions and developed what has become known as *wenbing* theory were for the most part late Ming and Qing practitioners. Many scholars have written about the epidemics of this era, among them Dunstan, 1975, and Twitchett and Fairbank, 2013, Unschuld, 1985, Hanson, 2011. For maps of the geographic extent of epidemics, see Elvin, 1973, p.310.

49 This term is translated in various ways, including the six divisions, six patterns, six channels, and six warps. I choose to identify this organising principle as the six warps, since the visual image of the warp and weft of the weaver's loom reflects it well.

yang 太陽 (greater *yang*), associated with the Bladder and Small Intestines, *yang ming* 陽明 (*yang* brightness) associated with the Stomach and Large Intestine, *shao yang* 少陽 (lesser *yang*) associated with the Gall Bladder and Triple Burner, *tai yin* 太陰 (greater *yin*) associated with the Spleen and Lungs, *shao yin* 少陰 (lesser *yin*) associated with the Kidneys and Heart, and *jue yin* 厥陰 (reverting *yin*), associated with the Liver and Heart Protector. Each of the stages manifests symptoms of increasing seriousness, although the progression of a disease is acknowledged to be able to skip stages or turn back onto previous stages, depending on treatment given and the health and vitality of the sufferer.[50]

Table 3 Six Warp Disease Patterns with Associated Channels and Organs

Six Warps	Arm Channel and Organ	Leg Channel and Organ
tai yang 太陽 (Greater *Yang*)	*xiaochang* 小腸 (Small Intestine)	*pangguang* 膀胱 (Bladder)
yang ming 陽明 (*Yang* Brightness)	*dachang* 大腸 (Large Intestine)	*wei* 胃 (Stomach)
shao yang 少陽 (Lesser *Yang*)	*sanjiao* 三焦 (Triple Burner) *	*dan* 膽 (Gall Bladder)
tai yin 太陰 (Greater *Yin*)	*fei* 肺 (Lung)	*pi* 脾 (Spleen)
shao yin 少陰 (Lesser *Yin*)	*xin* 心 (Heart)	*shen* 腎 (Kidney)
jue yin 厥陰 (Reverting *Yin*)	*xinbao* 心包 (Heart Protector)	*gan* 甘 (Liver)

* The *sanjiao* 三焦 (Triple Burner) is the conceptual division of the body into the *shangjiao* 上焦 (Upper Burner) associated with the Heart and Lungs and respiration and circulation, the *zhongjiao* 中焦 (Middle Burner) associated with the Spleen, Stomach, and sometimes also the Liver and digestions, and the *xiajiao* 下焦 (Lower Burner) associated with the Kidneys and Bladder and excretion.

The concepts of exteriority and interiority, which we see in the progression of disease according to the *liujing* system above, signify not only exterior and interior parts of the body, but also the depth of penetration of an exterior disease.

The attention paid to the patient's changing condition during the six levels of progressing illness is very detailed, encompassing the pulse condition, the temperature of various sections of the body, quantities and qualities of sweats, excretions from bowels, bladder, stomach, mouth and nose, bodily odours, complexion, limb tonicity, vision, speech, breath patterns, vocalization patterns and behaviours.

This treatise is the first detailed examination of externally contracted disease,[51] its progression and its symptoms. It is also intimately connected with the earliest extant tongue

50 For a more comprehensive explanation of the six channel diagnosis, see O'Connor and Bensky, 1987, pp.40–43.

51 The phrase 'externally contracted disease' demands some explanation. While early texts refer to illness causation in terms of external phenomena such as displeased ancestors or inauspicious cosmological circumstances, by the time Zhang Ji was composing his treatise, illness had become conceptualised as the result of a breakdown of the normal order of bodily equilibrium, describe in terms of the above mentioned *yin, yang* and *qi.* Zhang states the external causes of illness to be *shanghan*, or cold damage, which we see defined in the 58th difficulty of the *Nanjing,* which states 'there are five [kinds of] cold damage: wind stroke, cold damage, damp warmth, heat disease, and warm disease'.

diagnostic text, which followed it by approximately seven centuries, and which refers explicitly to this treatise and indeed bears its name in its title, *Shanghan jinjing lu* 傷寒金鏡錄 (Golden Mirror Record of Cold Damage). This text devoted to the tongue will be discussed in depth in Chapter 3.

I expected to find numerous references to the appearance of the tongue in the *Shanghan lun*. In fact, they are exceedingly sparse. To exemplify, under the rubric *taiyang* 太陽 (greater *yang*) I found three mentions of the tongue: *sheshang zao erke* 舌上燥而渴 (a dry tongue and thirst) [in line 137], *sheshang baitai hua* 舌上白胎滑 (the tongue fur is white and slippery)[52] [in line 129], and *sheshang taihua* 舌上胎滑 (the tongue fur is slippery) [in line 130].[53] Under *yangming* 陽明 (*yang* brightness) there are another three references to the tongue, *sheshang ganzao* 舌上干燥 (a dry tongue) (line 168), *sheshang tai* 舌上胎 (coating on the tongue), and *shezao* 舌燥 (dry tongue) (line 222). There is another reference in the *shaoyang* 少陽 (lesser *yang*) category, (line 230), *sheshang baitai* 舌上白胎 (the tongue has a white coating).

In each of these passages, the tongue is noted as one of a group of possible signs or symptoms of a stage of illness. There doesn't appear to be any defining reason that argues for the inclusion of tongue presentation in one set of symptoms and not in another, nor does there appear to be any loss of clarity in terms of disease progression when tongue descriptions are not given.

The *Shanghan lun* presents a lucid and descriptive account of illness progression in a patient. While the tongue descriptions noted signify that Zhang does have at least some interest in both the moisture or lack of it in the tongue, and in the appearance of a coating on the tongue, these certainly do not indicate any diagnostic system based on tongue appearance at work in the *Shanghan lun*. Clearly, the tongue was not a significant diagnostic feature for Zhang Zhongjing.

Another renowned text is the *Maijing* 脈經 (Classic of the Pulse), written by Wang Shuhe 王叔和 (265–316), the above mentioned compiler and reorganizer of the *Shanghan lun*. A search through his treatise on the art of pulse diagnostics yielded very little associated information on the tongue. In the text, Wang makes reference to a tongue presentation similar to one we saw earlier in the *Yinyang maise jing*: 'A sick person with a curled tongue and

---

Additionally, I acknowledge that the term 'disease' itself can be construed as a modern term, out of keeping with Han thinking. However, for ease and clarity, I have chosen to use it.

52 The usual translation for 滑 *hua* in Chinese medicine is slippery, and it is a term used most often in describing a pulse (*mai* 脈) quality. The same character is variably translated as 'glossy' or 'slippery' when referring to the coating on a tongue. For the sake of consistency, I will translate 滑 as slippery in descriptions of the pulse and the tongue coating in this dissertation.

53 The Chinese character given in the *Shanghan lun* is 胎 *(tai)* which means fetus, or pregnant womb. The character usually used to denote the fur on a tongue is 苔 (*tai)*. In discussion with Chinese physicians it has been suggested to me that it is the concept of accumulation during a pregnancy as well as the identical sound of the characters that allowed the variation in older texts.

retracted testicles is bound to die'.[54] In this case, Wang's reference to tongue presentation is resonant with earlier tomb texts and passages of the *Neijing*. In other words, the appearance of the tongue is significant simply in that it is a portent of approaching death.[55] It does not offer information about the type of illness contracted or the organs involved in the impending demise. Contrasted with this text's copious information discerned and recorded about the inner body through the medium of the pulse, we can see that tongue inspection was still incidental in scholarly medicine at the time of the Western Jin.

A Brief Overview of Early Recorded Cases

A textual window onto what practitioners actually thought was clinically important at different times in specific scholarly circles is the case record (*yi'an* 醫案). I will discuss the genre in greater depth in Chapters 4 and 5. In Chapter 5 I will also present individual examples of the use of tongue observation by physicians in the case records. But as with many discussions of Chinese textual records, we begin in the Han.

Broadly speaking, by case history I refer to individual records of the diagnosis and treatment of a single patient by a single physician, although the context and application of each record may vary.[56] My first look through this window takes place in the 2nd century BCE when we find the story of the unfortunate physician, Chunyu Yi, 淳于意, whose story is recorded in the *Shiji* 史記, *c*.86 BCE (Records of the Grand Historian) by Sima Qian 司馬遷 (?145–86 BCE). We learn that Yi, in the wake of an unspecified accusation, was summoned by Imperial Order to give an account of his practice.[57] Offering 25 case histories in defense of his standing as a worthy physician he contends that 'in every case where your vassal has conducted a medical consultation, he has always made a consultation record (zhenji 診籍).[58] A common turn of phrase in all but three of these records is, 'when I examined the *mai* 脈 (vessel/pulse)…'.[59] Nowhere in these records do we find Chunyu Yi using the comparable phrase, 'when I inspected the tongue'.

The talents and qualities that make up a good physician are discussed in scholarly medicine across traditions worldwide. While acuity regarding the pulse is cited in Chinese texts from the Han onwards as an indicator of great medical skill, the subtle art of the physician's gaze was also prized. Both techniques were associated with fortune-telling and divination,

54 Yang 1997, p.65.
55 This is would have been a critical concern, as to treat a patient who died under one's care could well result in the death of the attending physician. Prognostication could reasonably be called as crucial for a physician to get right as diagnosis and treatment.
56 Cullen 2001, p.297.
57 I will be looking at one of Chunyu Yi's cases in detail in Chapter 4.
58 Cullen 2001, p.305.
59 Hsu 2001, p.57.

which were highly regarded skills at every level of Han society.[60] The *Suwen* recension of the *Neijing* declares that the physician who diagnoses using both the pulse and complexion achieves perfection.[61] The legendary Bian Que 扁鵲, a physician *c.*50 BCE was reputed to have had magical diagnostic powers as a result of a potion that would allow him to 'see' in his patients what others could not.[62] Although there were a multiplicity of diagnostic arts in the Han and their hierarchy was flexible, there are no traces of praiseworthy inspection of the tongue.

Beyond the Han to the Song

Following the demise of the Han dynasty, any significant period of unification eluded China until the establishment of the Tang 唐 dynasty (681-906), with the exception of two very brief periods of reunification during the Jin 晋 dynasty (286-316) and the Sui 隋 dynasty (581-618). In the short 37 year period of the Sui, the Confucian examination system was set up,[63] the *dayun he* 大運河 (Grand Canal) constructed and *changcheng* 長城 (the Great Wall) extended. However, crippling taxation, mass conscription for extensive construction projects and unsuccessful military campaigns led to popular revolts and the assassination of the emperor. Consequently, a period of turmoil and division again preceded the establishment of the Tang in 681. While the imperial examinations[64] had been set up in 605 during the Sui,[65]in the early Tang they remained very much an embryonic system. An aristocratic and landed power base prevailed in China which sustained itself with patronage and familial connection, both being more important and reliable routes to official positions of power and status than success in the incipient imperial examinations. Scholar officials, or 'examination gentry'[66] did not become prominent for another three centuries.

It was during the Tang 唐 (618–907) dynasty that Sun Simiao 孫思邈 (*c.*581–682), referred to as the 'Father of Medicine', authored the famous formulary *Beiji qianjin yaofang* 備急千金要方 (Emergency Prescriptions Worth a Thousand Gold Pieces). There are suggestions in

60 For the relationship between divination and diagnosis in reading the complexion see Despeux, 2005, pp.176–205. Divination and prognostication is discussed in Harper, 1998, pp.9–11, Graham, 2003, pp.235, 330, Sivin, 2002, pp.206–107, Hsu, 2010, p.58, Kalinowski, in Lo and Cullen, (eds) 2005, pp.125,126, among others.

61 Kuriyama 1999, p.10.

62 Harper 1982, pp.59–60. This, again, highlights the importance of a Han physician being able to 'see' a patient's capability to recover. It is also resonates with the statement in the *Neijing* that a physician who could diagnose by looking alone and could treat the patient to avoid a disease gaining hold was superior to one who treated when a disease began to show symptoms, or one who treated when the disease was already in full force. See *Neijing,* [26-167-4].

63 The status conferred with the successful completion of these examinations and the consequential positions available had a direct impact on the status of medicine, beginning in the Song dynasty.

64 See Li, Peilin, 2012, p.195, and Ebrey, 2010, pp.145–146.

65 See Roberts, 2000, pp.81–2, for essential features of the examination system during the Sui and nomination of degrees.

66 Lo and Cullen, 2005, p.2.

various biographies that would place Sun's birth in the early 6th century, but scholars now generally agree that Sun was most probably born in 581 near the Tang capital Chang'an 長安 in present-day Shaanxi 陝西 province. Given the fairly certain death date of 682, Sun appears to have been at least a centenarian. Although Sun Simiao is celebrated in China as one of its greatest physicians, it seems unlikely that he ever practiced medicine professionally. His official biographies only contain a single reference to practical medical activities in an account in which he cured an aristocrat and disciple of a 'malign condition which physicians were unable to treat'.[67] His *Beiji qianjin yaofang* contained 30 volumes of formulary and writings on medical knowledge from the Han to the Tang.[68] He does include, in the *Beiji qianjing yaofang*, *juan* 22, a rare instructional account of his own illness which takes the form of a rudimentary case record.

> In the fourth year of the Zhengguan [貞觀] reign period [630 CE] an ulcerous swelling suddenly appeared at the corner of my mouth. I made a *ganzi chenmu* 甘子 振母 plaster, but there was no improvement after 10 days. I anointed [the lesion] with the [above] prescription and obtained a cure. Thereafter I constantly used this medicine to help others, and none failed to be cured.[69]

Though he retains a place of enormous prominence in the history of medicine in China, Sun's work remains outside what we see later in this chapter as a progression of innovation, seen in the degree to which scholar *practitioners* were those who drove the new theories and practice in medicine. The work of Zhang Zhongjing, which grew out of the experience of epidemic crisis, heralded the beginning point for this type of practitioner intervention in the theoretical developments of medicine.

After the fall of the Han, succeeding dynasties up to and including the Tang 唐 (618-907 CE), had but limited circulation of medical writings, and the medical classics from the Han dynasty continued to be the focus of elite physicians .

By the time of the Tang period social structures that had been forming over centuries were just about in bud. The Imperial examination system was still nascent, the impact of developments in printing remained minimal and Buddhism was the dominant religion across all levels of society. Economic activity was still primarily rooted in the exchange of goods and the most important trade routes went through Central Asia. During this period materia medica texts (*bencao* 本草) and formularies (*fangshu* 方書) became quite fashionable. Indeed, one of the more remarkable publications of the Tang was the text mentioned earlier, the *Beiji qianjin yaofang* by Sun Simiao. While the *Beiji qianjin yaofang* does not propose

---

67 *Jiu Tang Shu* 舊唐書 [Old Tang Histories] *juan* 191, pp.5094-5097 (completed in 945 CE).

68 This text, completed in 659, contained 3,500 drug recipes, some of which continue to be used clinically. For further information on Sun and formulary collections during the Song see Goldschmidt, 2009. Unschuld, 1985, p.42–45 discusses Sun's attention to drugs and demonic medicine and his reference to Buddhist four-element theories, p.150–151. Wilms, 2002, has translated and discussed women's recipes in this text.

69 Cullen, in Hsu, ed, 2001, p.308. Again, we have this statement, but no record of his being clinically active.

any diagnostic features to add to tongue lore, Sun does mention the tongue as a signifier of outcome during problematic childbirth.

> In all cases of childbirth complications, [these are] the symptoms of death or life; If the mother's face is red and her tongue green, the child will die and the mother live. If the mother's lips and mouth are green and saliva is coming out from both sides of her mouth, both mother and child will die. If the mother's face is green and her tongue red and saliva is coming out from the center of her mouth, the mother will die and the child live.[70]

Beginning with the Song dynasty 宋代 (908–1122 CE), what in retrospect looks akin to a seismic shift was taking place in Chinese society. The Song societal changes are important to consider here, as we will see later that their impact on medical practitioners created a niche for increased interest in the illustrated *Aoshi shanghan jinjing lu*. These changes included the upsurge in printed texts and a flourishing examination culture. Buddhism lost its position of cultural and religious dominance, economic power moved south as southern wet rice farming expanded, overshadowing the dry grain crops of the north, and the trade from the southern ports serving new sea routes surpassed that from the Central Asian overland trade routes. A cash and credit based economy developed, moving away from the old systems of exchange of goods, particularly dry grains and fabrics.[71]

The Imperial examination system was thriving during the Song, and government interest in medicine took several new forms. Medical education was refashioned when the government established the *Taiyi ju* 太醫局 (Imperial Medical Service) in 1044.[72] The *Heji Ju* 和劑局 (Imperial Pharmacy) was established in 1076.[73] Another important government intervention in medicine was the creation of the *Jiaozheng yishu ju* 校正醫書局 (1057) (Bureau for the Revision of Medical Texts), whose significance was heightened by advances in printing that allowed the fruits of this Bureau to be disseminated. To underscore the surge in printing, Joseph McDermott writes:

> … by the close of the twelfth century, books had become more available. Printed in just thirty-odd places during the Northern Song, they were published in almost two hundred places in the far smaller territory of the Southern Song.[74]

---

70 Wilms 2002, p.201. Wilms also notes that this particular passage is a near literal quotation from a Sui dynasty text by Chao Yuanfang 巢元方 (550–630), the *Zhubing yuanhou lun* 諸病源候論 (Treatise on the Origins and Symptoms of Various Diseases), scroll 43.

71 Many scholars have discussed, generally and specifically, these changes which are represented in the Song. Among them are Brokaw, 1991 and 2007, Cheng, 2003, Clark, 1991, Ebrey 1998 and 2006, Elman, 1984 and 2000, Goldschmidt, 2009, Hartwell, 1982, Hinrichs, 2011, Hymes, 1987, Lee 1985, and Unschuld, 1985.

72 In 1055, the Imperial Medical Service revamped the students' examination questions to include knowledge of the ancient canons of medicine, and the materia medica. See discussion in Goldschmidt, 2009, pp.49–56.

73 The pharmacy was originally named the *Maiyao suo* 賣藥所 (Office of Selling Drugs) and later changed to the *Heji Ju* – literally translated as the Bureau of Prepared Prescriptions.

74 McDermott, 2005. p.65. It is interesting to note that the issue of burgeoning printed works circulating during the Song does not go uncontested. Susan Cherniak (1994) writes that 'Although Sung printers were prolific, the majority of books in Sung Imprial and private libraries were still manuscripts'.

The introduction of movable type during the Song which allowed books to be produced in far greater numbers and at far less cost, facilitated the emergence of a new book industry.[75] Additionally, between the 8th century or mid-Tang and the 11th century or early Song, the population of China nearly doubled. Consequently, there were expanding numbers of scholars undertaking the competitive literary study required for the imperial examinations. They formed an eager market for the printed books of the new publishing industry. This unprecedented availability of texts included those on the topic of medicine, and enabled scholars to educate themselves in medical theory, participate in medical discourse and author books on medicine.[76] The prestige accorded the practicing scholar physician rose significantly.[77] In other words, the transmission of medicine at the level of theory and practice was altered.[78]

In the years between 1020 and 1063, there were 14 major epidemics, with a new wave sweeping through roughly every other year.[79] It was in this context, amid the proliferation of medical texts, with scholar physicians annotating, editing and writing commentaries on medical treatises, that a revolutionary text appears. It is an image-based manual setting out the possibility of diagnosing *shanghan* illness by observing the appearance of a patient's tongue. The devastation wrought during Song epidemics was accompanied by an increased interest in the *Shanghan lun*.[80] Indeed, this first text devoted to diagnosis according to the appearance of the tongue, no longer extant, placed the disease category of *shanghan* in its title. This lost text, expanded upon by Du Qingbi 杜清碧 (1276–1350) during the Yuan dynasty, is now generally considered to have been written by a Song scholar named Ao Jiweng.

The Jin-Yuan Period and Innovation

The Jin-Yuan 金元 period (1115–1368) refers to a time when northern tribes controlled part or all of China, and is partly concurrent with the Song dynasty. As the northern Jin tribes came to power in the north of China, the Song dynasty retreated southward. The Jin (1115–1234) were conquered by the Mongols who established the Yuan dynasty in 1234, pressing southward to finally overcome the Song in 1279.

---

75 Printing in China generally and during the Song particularly has generated much discourse. See Tsien in Needham, 2001, Brokaw and Chow, 2005, Carter, 1955 and Cherniak, 1994 among others.

76 Goldschmidt, 2009, p.42.

77 It is worth recalling that the historical mode of transmission of medical knowledge, recounted in the Memoir of Chunyu Yi in the *Shijii* was that of master and student.

78 There are a number of fascinating discussions about the profound changes to medicine and its transmission in the Song, among which are Hymes 1987; Hanson 1997; Cullen 2001; Goldschmidt 2009. By the Ming, we will see that this altering of the transmission of medical theory had a profound impact on medical practice

79 Goldschmidt, 2007, pp, 66–69.

80 Goldschmidt, 2009, pp.69–102. Catherine Despeux agrees that advances in printing did not account for the increased attention to the *Shanghan lun,* as there is no evidence of a similar increase in the publication of other medical works. Despeux, 2011, p.146.

Medical practice in the Song, and during the Jin-Yuan era, was rich with vibrant discourse among physicians. The surge in the annotation and revision of existing medical texts and the exchange of knowledge as these circulated among physicians led to significant intellectual ferment and innovation.[81] The period is renowned for producing physicians known collectively as the *Jinyuan Sidajia* 金元四大家 (the Four Masters of Medicine of the Jin and Yuan periods), who were proponents of four different approaches to the treatment of disease. These physicians were reworking the possibilities for clinical practice in correlation with the theoretical underpinnings of classical doctrine, circulation tracts and the six channel theory of the *Shanghan lun*.[82]

A consideration of these four currents of ideas and their varying premises is warranted in this dissertation for two reasons. Firstly, we will see that none of these physicians turned their attention to the development of tongue observation as an important diagnostic technique. This underscores the fact that by the Jin-Yuan period, tongue inspection remained an incidental practice which, despite major theoretical innovations of the time, did not gain much recognition. Secondly, as we look at the case records of two prominent proponents of *wenbing* in Chapter 5, we will see that these later developments reference the work of these four physicians. I will argue in this dissertation that an increased attention to the tongue proceeded alongside the development of *wenbing*. The work of the *sidajia* and their focus on heat and fire in their reworking of medical theory did indirectly impact the later development of tongue diagnosis.

Brief Descriptions of the Four Currents of the Jin-Yuan Masters

Cold/Cooling Current of Liu Wansu 劉完素 *(1120–1200)*

Liu wrote *Suwen xuanji yuanging shi* 素问玄机原病式 (Exploration of the Mechanisms of Illness based on the *Suwen*). He also wrote the *Shanghan zhige* 傷寒直格 (Discussion of Cold Damage). His premise was that although the *Suwen* charts six pathogenic influences (wind, cold, summer heat, damp, dryness and fire) they all ultimately manifest as fire. Consequently, cool and cold herbals were crucial to most treatment. He maintained that treatment should take into account environmental influence, the patient's constitution and presenting symptoms, and his prime treatment principle was to lower Heart fire and nourish Kidney water to cool the patient.

---

81 It is important to remember that although there was increased circulation of texts during the Song and Jin-Yuan, it would not be until the Ming that there was a truly dramatic increase in the numbers of printed texts, and an attendant surge in availability and access.

82 An excellent discussion concerning the integration of the *wuyun liuqi* 五運六氣 (five circulatory phases and six seasonal influences) theory, its development in the Song and elaboration by the Jin-Yuan masters is Catherine Despeux's article in Hsu, (ed.), 2001. pp.121–165.

Attack/Purge Current of Zhang Congzheng* 張從正 *(1156–1228)

Zhang Congzheng was influenced by the teachings of Liu Wansu. Having attained an Imperial medical position, he found the social conditions oppressive and left to become an itinerant doctor. He is known for the theory that most disease results from invasion of the six pathogenic influences of heaven (wind, cold, summer heat, dampness, dryness and fire) the six pathogenic influences of earth (fog, dew, rain, hail, ice and mud), and a diet with excessive amounts of one or more tastes (eg. sour, sweet or spicy food). Zhang deemed the removal of pathogens to be the essential aspect of treatment. He focused on the methods categorised in the *Shanghan lun* (sweating, emesis, and purging) but also advocated the use of any other method in the expulsion of toxins such as sneezing and generating tears.

Spleen/Stomach Current of Li Gao* 李杲 *(1180–1251)

Li references the *Neijing's* statement that the Stomach is the basis of the body's *qi* in his treatise, the *Piwei Lun* 脾胃論 (Treatise on the Spleen and Stomach), (1249). He theorized that damage to the Spleen and Stomach is the origin of most disease, and that *yin* fire (*yin huo* 陰火) is engendered by disordered *qi*. The deficiency in the Spleen and Stomach would then allow the *yin* fire to rise. This highlighted a change in focus in that the origin of this pathological fire was internal, not external. The *Piwei lun* does little to advance the case for tongue diagnosis. In it, Li refers to a dry tongue and a rigid tongue, offering nothing more than the similarly cursory mentions of quality that we find in the *Shanghan lun*. There is one connection between tongue presentation and the bodily location of a cold pathogen, '…a white, glossy tongue fur indicates cold in the chest',[83] though again, this does not approach anything like a system of diagnosis based on the appearance of the tongue.

Both Li and the last of the *sidajia*, Zhu Zhenheng, describe *yin* fire. Li focuses on its cause as originating in *zhong jiao* 中焦 (middle burner)[84] deficiency, and Zhu sees it as a pathology caused by a deficiency of *yin* in the body.

Nourishing Yin Current of Zhu Zhenheng* 朱震亨 *(1281–1358)

Zhu Zhenheng[85] is the last of the *sidajia* and sometimes considered the most significant of the four Jin-Yuan innovators. He references the *Neijing's* description of the role of the 'ministerial fire', as activator of the organs of the body. He believed that this fire, however, could inappropriately flare as a result of dietary and emotional excess and cause disease by overheating the *yin* and the Blood. It therefore needed to be controlled by careful nourishing of the *yin* of the

83 Zhou Ximin *et al.* 1994, pp 565,567,575.
84 As noted earlier, the middle burner is equated with the Spleen and Stomach.
85 Also known as Zhu Danxi 朱丹溪, he was a contemporary of Du Qingbi, author of the *Aoshi shanghan jinjing lu* and reputed to have been his friend. Pers. comm. with Dr. Ji Zhenghan, Beijing Academy of Traditional Chinese Medicine.

Kidneys. He maintained that *yang* energy and heat tend to be stronger and more exuberant in the body than *yin* energy, and therefore the *yin* is always in need of nurturance.[86]

Given the rather revolutionary re-workings of Chinese medical theory that these four physicians produced, it is perhaps surprising that there is little significant consideration of the state of the tongue in the illnesses they describe. Particularly since the original text on tongue diagnosis is thought to have been written in the Song Dynasty and the first extant edition of the expanded tongue manual, the *Aoshi shanghan jinjing lu* is dated 1341. However, the tongue text situated itself firmly within the scope of *shanghan* illness, as articulated in the *Shanghan lun*. The *sidajia* on the other hand, were not so much leaving the concept of *shanghan* illness behind as focusing on factors that expanded the ideas of disease causation. It would not be until the late Ming and early Qing dynasty that the significance of fire and the usefulness of tongue appearance as a diagnostic tool would begin to sit comfortably together in the writings of physicians.

The tongue text itself was not disseminated enough to command a wide recognition until it was appended to a Ming collection of case records. This was the *Xueshi yi'an* 薛氏醫案 (Scholar Xue's case records) published in 1529. As Joseph McDermott writes, it was not until the early 16th century that the availability and consumption of paper extended beyond official circles. It was this new affordability of paper, together with the simplified carving techniques of the 16th century that allowed printed texts to become widely available and affordable to much of the literate population.[87]

The Ming 明 Dynasty (1368–1644)

While the Ming dynasty is renowned for an array of modernising developments, among them industrial expansion, advances in agriculture, an improved transportation network, innovations in printing and the restructuring of the Imperial examination system, the decline of the Yuan dynasty was accompanied by severe hardship in the countryside and disarray in government structure and function. A combination of social revolutionary uprisings and nationalist movements culminated in civil war. Nature was complicit in the turmoil accompanying the dynastic upheaval, bringing climatic changes and epidemic disease. H.H. Lamb describes the hardships confronting peasants during the Yuan dynasty (1279–1368), includ-

86 Zhu Zhenheng's attention to ministerial fire and its management assumes an opposing attention to the water of the kidneys. It is worth noting that fire and water been one of the enduring dualisms in Chinese texts, as noted by Allan, 1991, p.59.

87 McDermott, in Brokaw and Chow (eds), 2005, pp.55–104. McDermott makes the point that prior to the mid-16th century, it was more likely for wood-carved blocks to emulate the calligraphy of eminent scholars. The flourishes of such writing required an enormous of time and carving skill to reproduce. Consequently, the cost of the resulting text would be significant. The new simplified carving techniques reduced time, artistry, and consequently, cost of the texts. As we saw in Figs. 6 and 7 in the Introduction to this dissertation, the text accompanying the tongue images in the *Xueshi yi'an* of 1529 were of the simplified type.

ing the loss of 7 million lives in 1332 due to excessive rainfall and flooding.[88] Climate historians have shown that during the 13th and 14th centuries, temperatures were colder than had been the case in either the preceding or following centuries, and that droughts and floods were frequent.[89] Robert Hymes offers a chilling description of the years between the end of the Song in 1278 and the early years of the Ming.

> This is virtually a Great Dying in two stages: a first decline of 33 million, or *thirty* percent, somewhere in an eighty-two year period from Song to Yuan, followed by renewed and reasonably strong population growth in Yuan (sixteen percent in sixty years), followed by another twenty-three percent decline from Yuan into early Ming, for a total drop of thirty-eight percent over 170 years. Either piece of this, the Song-Yuan part or the Yuan-Ming part, would represent a population decline of world-historical magnitude.[90]

While we cannot be certain of the exact causes of such catastrophes, they are difficult to imagine without supposing an accompanying component of significant and epidemic disease. We can conjecture that this 'great dying' would have prompted scholar physicians to revisit the *Shanghan lun*, which was written in response to population decimation from epidemic disease in the Han. The illustrated tongue text, the *Jinjing lu,* that is at the core of this thesis, appeared in the midst of this period.

In 1368, having driven the Mongols north, Chinese troops occupied Beijing and the Ming dynasty was proclaimed. The original societal aspirations of the first Ming emperor, Zhu Yuanzhang 朱元璋 (1328–1398), who himself came from an impoverished family, influenced Ming policies as his government standardised and simplified state examinations. As a result, a Confucian education with the ensuing possibility of acceptance into the civil service and holding government office became available to larger segments of the population. This, along with the fact that it was also possible to purchase an official title, led to a greatly increased demand for a static number of civil service posts.[91]

The restructuring of the Imperial Examination system was only one of a number of factors that were changing society in ways that, as we will see, were to have implications for medicine.

Advances in farming methods facilitated the growth in population. 'Double cropping', which allowed two harvests in one year from the same piece of land, the acquisition of 60-day rice, the introduction of fish to the rice fields, all resulted in increased nutrition for peasants.[92] Industrial expansion and the commercialisation of the economy were also taking place. While cotton had been introduced into China during the Tang dynasty, the production of cloth had remained a household endeavour. By the 15th century, production

---

88 Lamb, 1977, pp.447–456.
89 Li, in Smith and von Glahn, 2003, p.137.
90 Hymes, in Smith and von Glahn, 2003, p.9.
91 For a comprehensive study of the Imperial Examination system and its transformations, see Ho Ping-ti, 1962.
92 Perkins, 2013, discusses agriculture variations during the Ming. See pp.xi–xx, 24–26, 45–46.

had increased sufficiently to allow a division of labour, with spinning remaining a primarily rural occupation, while weaving transformed into an urban industry. This nascent industrialisation process also generated improved transportation links throughout the empire.[93]

Much has been written about the advances in printing and the proliferation of medical texts beginning in the Song and increasing during the Ming. Ink cakes, ink stones, paper and brushes became known as the 'four treasures of stationery', copper moveable type was invented and colour illustrations were introduced in mass-produced literature. [94] All of these Ming advances – the restructuring of the examination system, improvements in agriculture supporting population growth, industrial expansion bringing about a newly wealthy merchant class, increased mobility due to improved transport links, and the continued flourishing of publishing – were relevant to the changes taking place in medicine, both socially and theoretically. By the time of the establishment of the Ming Dynasty, the threads of medical innovation that had been spun during the Song-Jin-Yuan medical period began to be woven into a tapestry of inventive syncretism.[95]

From the Han to the Song-Jin-Yuan, the application of the theories of the *Neijing* and the *Nanjing* are paramount in the narrative of medical thought, with increasing attention being paid by the end of the Song to the additional theoretical constructs contained in the *Shanghan lun*. Dissatisfaction with the constrictions of narrow classical referencing led to the development of new schools of thought such as those put forward by the *sidajia,* as we saw above – albeit heavily referencing the classical texts – and an increased focus on precise aetiology, whose antecedent lay in the *Shanghan lun*.[96] Also, scholar physicians of the period had struggled to bring pharmacological information into the realm of systematic correspondence, and by the Ming dynasty, drug qualities had been categorised in terms of

93 Nishijima, 1984, pp.17–77.

94 For a detailed and interesting discussion of the high levels of craft involved in publishing technology see Kobayashi and Sabin, 1981, pp.25–32. A fascinating and detailed account of the creation of the woodblocks used for printing in China is found in Carter, 1955.

95 A phrase frequently seen in writings on Chinese medicine is 'Jin-Yuan medicine'. The more inclusive 'Sung-Jin-Yuan medicine' is found in Paul Unschuld's M*edicine in China*. Smith, 2003, pp.1–34, emphasises the fact that these five centuries of Chinese history share a progression of transformations that can be seen as discrete. In terms of medicine, the philosophical discourses of Song Neo-Confucianism led to the innovations in theory found in the Yuan, which come to fruition in practice in the Ming. In any case, it is the period from the Song through the Ming that led to many innovative theoretical constructs and lively discourse among physicians, and set the groundwork for the late Ming and early Qing development of *wenbing* 溫病 (Warm Illness) theory.

96 Later in this dissertation I will discuss in detail the differences between the *shanghan* or cold damage school of thought, its relevance to tongue inspection, and the later development of *wenbing*, or warmth factor illness. Both remain vital thought processes for physicians in clinical practice today.

yin and *yang*, flavours, thermo-influences,[97] organ and channel affinities, upper, middle and lower burner affinities,[98] the five phases[99] and the six climatic influences.[100]

Consequently, literate Ming physicians were accustomed to dealing with a quite sophisticated and complex system of correspondences and an extensive array of drug attributes when diagnosing illness and prescribing herbal medicines. Possibilities for the emergence of innovative ideas, differences of opinion, and outright disagreement, were rife. It is understandable that in an environment of increased access to proliferating medical writings we see new theories proposed, older theories re-worked and further developed and a heightened awareness of varying discourses among physicians themselves. The Ming philosopher Chen Xianzhang 陳獻章 (1428–1500) wrote,

> Have doubts and then undertake investigations! Through investigations man can achieve knowledge! Achieve true wisdom first and then build your faith! Doubt is the starting point of the way that leads to the [recognition] of Tao.[101]

With this attitude holding sway in intellectual circles, physicians would likely be receptive to innovations in medical theory and practice, among which might be diagnostic techniques.

Who Were the Ming Physicians?

Ming physicians had diverse backgrounds. All through Chinese medical history, there are myriad varieties of healers who might lay claim to a societal role of 'doctor', with hereditary physicians of a particular family lineage forming a significant part of the field at any point. However, in the Ming, if we look particularly to the realm of the 'literati', or literate doctors,[102] we find that there are at least three groups defining the profession.

The simple accumulation of wealth on the part of the new merchant class referred to earlier would not in itself confer status, or indeed allow assimilation into the world of the gentry. The practice of medicine fitted nicely with the Buddhist inspired belief that merit, which also conferred status, could be accumulated by performing good works, and

---

97 Paul Unschuld's terminology for the placement of a medicinal substance on a continuum running from very hot to neutral to very cold.

98 Chinese medicine considers three burners (*sanjiao* 三焦), to be operative in the body, very simply described as the upper burner dealing with respiration, the middle burner dealing with digestion and the lower burner dealing with excretion.

99 The five phases (*wuxing* 五行) theory considers the transformations among the elements (wood, fire, earth, metal and water) and their associated spheres of influence in the natural world and the human body. A basic notion of these transformations is that variously they nurture, control or harm each other.

100 The six climatic influences (*liu qi* 六氣) are wind, cold, heat, dampness, dryness and fire.

101 In Unschuld, 1987, p.197.

102 I do not here mean to imply that hereditary physicians were illiterate. Indeed, the categories of hereditary physicians and literate physicians overlap, as we will see with the physicians whose case records are discussed..

it demonstrated an enduring commitment to and understanding of the coveted cultural behaviours and practices of the gentry.[103] In the words of a Ming official::

> Today, in selecting a technique from among the professions, only medicine is close to benevolence. In practicing it, one can save life and raise a family; one can spread kindness and save many lives.[104]

Membership of the elite could in fact be based on establishing an authority in medicine. As we will see later in this dissertation, literary flourish coupled with medical prescribing became a feature of aspirational behaviour among Ming physicians.

But medicine in the Ming did not only provide a home for money seeking status. It had become a useful pursuit for members of the gentry who had fallen on hard times financially, such as poets, artists, failed scholars and the politically disaffected. Improved transport links that had accompanied the rise of the merchant class and the expansion of industry now also allowed a growing trade in *materia medica*. Many physicians established their own pharmacies, making medicines that could be sold in the pharmacy shops, yielding a lucrative income.[105]

Additionally, as newly literate groups of physicians associated, at least informally, with high level degree-holding government officials, the sons of wealthy families who were unsuccessful in the imperial examinations could quite acceptably move laterally in a social sense from governmental aspirations to medical aspirations. '…Even the most learned medical man was likely to have abandoned Confucian studies or failed the civil service examinations'.[106] In other words, it now became possible for a failed Confucian scholar to become a successful physician and attain a respected social standing.

The confluence of improved transport, accessibility of printed medical texts, and a flourishing of scholarly interest in medicine engendered a communication among physicians as a group that was unprecedented in its pace and diversity. The social instrument of the printed text was introduced into the fabric of transmission in Chinese medicine with revolutionary consequence. The attendant implications for the spread of tongue observation as an aspect of diagnostic practice was immense. As we will see later in the next chapter, the *Jingjing lu,* as an early tongue inspection text, was included in the published works of some eminent Ming physicians. I will argue that this was one of the factors that rapidly drew the practice of tongue observation out of obscurity.

---

103 Brook, 1998, p.128
104 Brokaw, 1991, p.66.
105 Furth, 1999, p.157.
106 Leung, 1987, pp.134–165.

The Adaptations of Medical Texts

Nathan Sivin, describing the large repository of extant medical texts of Chinese medicine, writes:

> … 'classical medicine' does not refer to the theory and practice of a coherent group, but to the records left by the most literate and scholarly representatives of several traditions … [who] belonged to the small upper crust of the population that could read and write.[107]

Up until the Song dynasty, such records primarily meant canonical works, classical treatises copied with new erudite and explanatory prefaces, and Ben Cao 本草 (*materia medica*) compilations.

The rehabilitation of the Han dynasty *Shanghan lun* and its doctrines that had begun during the Song, the innovative schools of thought developed by the 'four great masters' of the Jin-Yuan, and the major theoretical advances in bringing pharmacology into the domain of the classical systematic correspondences, all presented interesting questions for Ming physicians in clinical practice.[108] Leading up to the Ming, a great deal of medical practice consisted of either the symptom-centred and pragmatic use of medicinal prescriptions based almost exclusively upon the experience of the practitioner regarding certain clinical manifestations, or a more classical approach utilising complex medical theory and the five-element based systems of correspondence as detailed in the *Neijing* and the *Nanjing*. The *Shanghan lun*, however, had combined the use of medicinal prescriptions according to a theoretical system - ostensibly derived from the *Neijing* and the *Nanjing* – with a great emphasis on clinical manifestations within and proceeding through a six-channel pattern identification system. In other words, the *Shanghan lun* advanced the integration of medical theory with clinical observation and practice, proposing to treat not just an illness, but the particular manifestations of that illness in a particular person, and with an eye to an expected progression of illness and healing. The scholar physicians of the Ming attempted to assimilate the information in the increasingly numerous medical publications available to them. What we can see from the writings of these physicians is that they increasingly approached diagnosis and treatment in a systematic way. To generalise, they noted that the 'evil' (*xie* 邪) influence invaded the channels (*jingluo* 經絡) of the body, thereby disturbing the normal functioning of the organs (*zangfu* 臟腑). The translation of 'evil' acknowledges the continued influence

---

107 Sivin, N. 1987, p.22.

108 The fact that there was a resurgence of attention paid to the *Shanghan lun* during the Song and that this necessitated a rethink on the part of scholar physicians as to how to incorporate its theory of six channel treatment into the more familiar thought processes of the *Huangdi neijing* is discussed by Goldschmidt, 1999, and Mitchell, Feng and Wiseman, 2000, among others. The treatises of the *Jin Yuan* masters also demanded attention from literate physicians, in the form of either acceptance or rejection. Additionally, attempts during the Yuan to place the materia medica within the five phase and *yin-yang* theoretical structures necessitated a more syncretic consideration of medical prescriptions.

of demons as well as other more abstracted forms of external disturbance to the body. Sivin, for example, prefers to focus on the latter, and translates 'heterodox'. This disturbance would create a distinctive constellation of signs and symptoms in the patient, which the physician would discern as a pattern (*zheng* 証). This would in turn determine the treatment and drug recipes to be given. But at a time when this assimilation of information began to yield an increasingly consistent approach to practice, notions of the appropriateness of particular drug recipes for particular diseases and particular sufferers was diverging regionally.[109]

The Development of *Wenbing* 溫病 (Warmth Factor Disease)

Physicians writing about febrile illness during the Ming and Qing dynasties in the Jiangnan 江南 region did not invent the term *wenbing*. It is mentioned in the canonical Hua*ngdi neijing*, *Suwen* 24. We also find the term *wenbing* in line 6 of the *Shanghan lun*.

> When in greater *yang* disease [there is] heat effusion and thirst, without aversion to cold, [this] is warm disease.[110]

In this passage Zhang Ji enumerates three of the clinical symptoms that continue to classiclally characterise a *wenbing* illness; namely, an externally contracted disease manifesting heat effusion, thirst and absence of aversion to cold at its onset.

In other words, *wenbing* as a concept in the *Shanghan lun* occurred as a transformation of cold damage. While it may have presented a distinct grouping of symptoms, it was not a discrete illness that would be contracted without any sort of intrusion of cold. Physicians did, however, observe evidence of warm disease occurrences which did not easily appear to be related to cold. In his preface to his revised *Shanghan lun*, Wang Shuhe (王叔和) (210–285) writes

> If a disease occurs immediately after exposure to cold, the disease is caused by cold. However, the cold does not bring out the disease [immediately]; rather, it can lurk in the skin and muscles. A warm pathogen disease will occur if the cold (contracted previously) emerges in the spring, and summer heat disease will occur if the cold emerges during the summer.[111]

This notion of something 'lurking' in the body was not examined with any detail by Zhang Ji, but it does extend the concept put forth in the *Neijing* concerning such pathogens. In chapter 3 of the *Suwen*, we read 'If the body is attacked by cold in winter, the person will suffer from a warm pathogen disease in spring.'[112] And again in Chapter 4 of the *Suwen*, we are told, 'If there is storing of essence, there will be no warmth disease in spring.'[113]

---

109 Hanson, in Hsu, (ed.), 2001, pp.263–264.
110 Mitchell *et al.*, 1999, p.47.
111 Liu Guohui, p.8.
112 *Neijing Suwen*, Unschuld and Tessenow, 2011, p.79, *Suwen* [3-21-5].
113 Ibid, p.87, *Suwen* [4-24-3].

Clearly, by the end of the Han dynasty, scholarly writing had posited the notion of pathogens that could lurk in the body, presenting either no symptoms or possibly not serious symptoms, for some time. The pathogens would then reappear later, possibly with a vengeance. Additionally, they had resonance with seasonal rhythms.

Towards the end of the Sui dynasty (隋代) (589–618), the question as to where, exactly, such pathogens lurk was again addressed. In his *Zhu bing yuan hou lun* (諸病源候論 Discussion of the Origins of Symptoms of Disease) Chao Yuanfang (巢元方) (*c.*610) writes that the cold (which can later emerge as heat) lurks in the muscles and in the bones.[114] It would seem that Chao understood the pathogen to have retreated even further into the body's interior, as it could now bide its time not only in the skin and muscle, but also in the bones.

Sun Simiao, in *Beiji qian jin yaofang,* used the term *zhangli* (瘴癘 pestilential epidemic). He conceived of *zhangli* as something in the atmosphere capable of causing illness, particularly in the case of a weakened body. Consequently one of Sun's major concerns was prevention of illness through maintaining the *zhengqi* (正氣 upright *qi*) of the body, the strengthening factor of a person's physiology and the opposite of invasive *xie* 'evil' *qi*. He advocated the used of cooling herbals to clear heat in the body (*qingre* 清热) and to release any accumulated toxins or poisons *(jiedu* 解毒). Additionally, Sun emphasized the importance of nourishing the *yin* of the body as a strategy to strengthening it. Although it would be another thousand years until *wenbing* theory and treatment reached a position of prominence in Chinese medicine, these two therapeutic strategies proposed by Sun were to ultimately emerge as the bases for the treatment of *wenbing* illness.

Shanghan diseases and *wenbing* diseases were often discussed separately, despite the fact that the latter was seen as a transformed manifestation of the former. While the *Shanghan lun* was said to be the 'progenitor of all formulae',[115] by the time of the Tang dynasty (618–896) formularies such Sun's and Wang Tao's (王焘 *c.*752) *Wai tai mi yao* (外臺秘要Arcane essentials from the Imperial Library)[116] included prescriptions that could easily be seen as being outside the reasoning of the *shanghan* school of thought, and in fact remained clinically useful for later *wenbing* physicians.[117]

---

114 Chao, 1991, p.326.

115 Tao Hongjing (456–536 CE) refers to it thus in his *Bencao jing ji zhu* (Collection of Commentaries on the Classic of Materia Medica. Beijing, People's Health Publishing House, 1994, p.24.

116 We will, in fact, see a recipe from this formulary in the *Jinjing lu.*

117 *Zi xue dan* 紫雪丹 (Purple Snow Pill) comes from the *Wai tai mi yao*. In the current English language textbook of Chinese herbal medicine, *Formulas and Strategies, (*2009) the indications given for its use include 'High fever, irritability and restlessness, delirious speech, impaired consciousness, muscle twitches, spasms, convulsions, thirst, parched lips, dark urine, constipation, a scarlet red tongue with dry, yellow coat, and a forceful, wiry, and rapid pulse. Also used for febrile convulsions in children.' It is an example of a formula not included in the *Shanghan lun* which became extremely important in the treatment of advanced epidemic febrile diseases.

New Diagnostic Thinking about Febrile Illness

Earlier in this chapter, the four innovative physicians of the Jin-Yuan, the *sidajia*, were introduced. The first of these, Liu Wansu, made a major contribution to the development of *wenbing*. He was a northern physician and founder of the Hejian school. His formulae were a radical departure from the warming herbals used to treat exterior patterns. Even the name of the formula, Relieve Exterior and Treat Interior Powder (*jie biao zhi li san* 解表治理散)[118] points to his theoretical innovation; namely, that all patterns of progression in the *Shanghan lun's* six stages are heat patterns, even if they originate with external cold. His thinking was that cold was able to constrain the *yang qi*, and consequently this constraint produced internal heat.

Liu's further contribution to *wenbing* theory dealt with the importance of the three burners (*sanjiao* 三焦)[119] in diagnosis and treatment of *wenbing*. According to Liu,

> Maculas and papules cannot be purged when they appear at the onset of a disease that is located in the upper burner, nor at the end when they are located in the lower burner[120]

Much like Zhang Ji who composed the *Shanghan lun* after losing most of his family and village to an epidemic, Wu Youxing, 吳憂性 (Wu Youke, 吳又可 *c*.1582–1652), witnessed the devastation in his region due to the epidemic of 1642. He wrote *Wen yi lun* 溫疫論 (*Treatise on Warm Epidemics*). This text brings us one of the most important concepts in the evolution of *wenbing* theory – pestilential *qi* (*liqi* 癘氣). He argued that *liqi* in the atmosphere could invade the body, regardless of whether a person was young or old, healthy or sickly. He maintained that

> Explanation of the prevalence of diseases cannot be confined to consideration of the year and the seasons, for it is not something that can be determined by the procession of the Five Agents or the vagaries of the Six *qi*.[121]

Succinctly, Wu removes *wenbing* from the constraints of classical *shanghan* reasoning.

He contended that *li qi* is a contagious pathogenic factor that:

> Can be transmitted from one person to another, unlike wind, cold, or dampness
> Acts as a toxin once it invades the body
> Attacks through the mouth and nose, rather than through the skin and muscles, as cold

---

118 Liu Wansu, 1991, p.780.

119 The three burners, or heating areas, of the body are an important concept in Chinese medicine. They fall under the rubric of the fire element in terms of the five phases, and are considered to be one of the *fu* (*yang*) organs, as well as notional. They have been and continue to be a topic for debate among Chinese physicians. As described above, but deserving of repeated definition, the upper burner is involved with respiration and circulation (heart and lungs), the middle burner with digestion (liver, stomach, spleen) and the lower burner with excretion (intestines, bladder). Since at least the Qiing dynasty, the upper burner is textually envisioned as a mist, the middle burner as a foam, and the lower burner like a swamp or a drainage ditch. Depending on the texts selected, the placement of the liver can be a movable feast, occasionally appearing in the upper burner category.

120 Liu Wansu, in Liu Guohui, 2005, p.12–13.

121 Quotation from Wu Youxing's *Wenyilun* in Dustan, 1975, pp.1–59.

damage is considered to do
Does not manifest symptoms soon after the exposure to the pathogen.[122]

In his treatments, Wu recommended the use of purgatives to expel toxins, and the avoidance of sweet and warm herbals after purging so as not to further damage the *yin* of the patient.[123]

By the 18th century, the differentiation between *shanghan*, or cold damage and *wenbing*, or warm illness was being well documented. Yang Xuan 楊璿 (*c*.1700–1784) composed *Systematic Differentiation of Cold Damage and Warm Epidemics* (*Shanghan wenyi tiaobian* 傷寒瘟疫條辨). He also theorised about the source of the lurking pathogen, arguing that it lingered in the *sanjiao*, thereby contributing to the physiology of heat in the body.

Many physicians, particularly those practicing during the Qing 清 (1644–1911) dynasty contributed to the *wenbing* discourse, and it is impossible to consider them all in the course of this dissertation. However, in Chapter 5, I will present cases by two of the most prominent physicians known to be contributors to the development of *wenbing* theory and methods of treatment, and whose cases demonstrate the use of tongue inspection, Ye Tianshi 葉天士 (1666–1745), and Wu Jutong (1758–1836).

Roots and Branches

The *Daxue* 大學 (Great Learning, 3rd or 2nd century BCE) says that 'Things have their roots and branches'. The roots of the theories of Chinese medicine lie in ancient texts, and their descriptions of what we might term the spiritual, the magical, the astrological and philosophical. In the Han, medical science had its theoretical roots in *yin* and *yang*, and the five phases. Nathan Sivin writes of Tang dynasty 'men of knowledge who danced out the shapes of constellations in rituals that launched the dancers on spirit journeys through the stars', and then tells us that the oldest record of these rituals is in a medical formulary.[124] Volker Scheid notes in his work on medical lineage that at no time did scholar physicians break with the cosmological syntheses developed during the Han dynasty, or with any of its core concepts.[125] To think in terms of such Han paradigms requires the study of the classic texts and their relationship to the development of Chinese medical thought. We see the ability to think in these paradigms demonstrated by the Ming and Qing physicians whose case records are presented in this thesis. In contrast, the marvel of the tongue drawings that arrived

122 Liu Guohui, 2005.p.14.
123 The relevance of this advice to clinical practice today was made clear to me in my own training. Patients with febrile illness were frequently prescribed rhubarb (*da huang*), and were in fact not given herbals immediately after such an illness, but instead told to eat cooling foods such as pears and watermelon if in season, or if not, to drink juice of these fruits for several days after treatment. In the course of this research, I realised this is consistent with the recommendations in the *Wenyi lun*.
124 Sivin, 1988.
125 Scheid, 2007.

in Europe during the 17th century is that they could stand outside the theoretical sphere of Chinese medicine and allow European physicians to reorganize the information they offered according to their own medical constructs. They were able to do this despite the fact that those tongue depictions grew out of a tradition with a completely 'other' view of the body, in which they continue to have both clinical and theoretical relevance.

Chapter 3

What Does the *Aoshi Shanghan jinjing lu* 敖氏傷寒金鏡錄 Tell Us?

'I found I could say things with color and shapes that I couldn't say any other way.' Georgia O'Keefe[1]

Section 1: translation of the *Yuan Aoshi Shanghan jinjing lu* 元敖氏傷寒金鏡錄 (the Yuan scholar Ao's Golden Mirror of Cold Damage)

First Image: White Coated Tongue

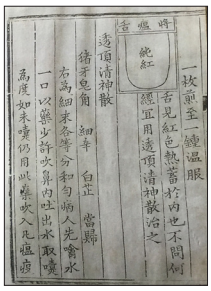
The tongue manifests a slippery and white coat. It indicates that the evil has just entered the body. The *dantian* has heat, the chest has cold. This is a sign of *shaoyang*, half exterior, half interior. It is appropriate to use *xiao chai hu tang* 小柴胡湯 (Minor Bupleurum Decoction) and *zhi zi chi tang* 梔子豉湯 to treat this.

Xiao chai hu tang (Minor Bupleurum Decoction)

Bupleurum 4 *qian*, Scutelleria, Liquorice, Ginseng, each of these 2 qian, Pinellia 2 *qian*.

[Take] the herbs to the right, mix the whole dose with one *liang* of water, one and a half *zhong* of ginger and 3 dates. Decoct one dose until it is one *zhong*. Swallow the whole *zhong* when it is warm.

Second Image: Tongue of Epidemic Taking Hold



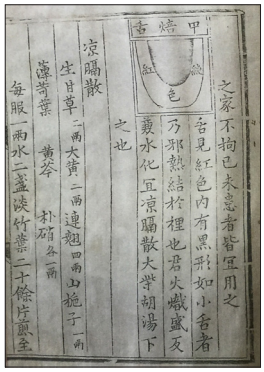
The tongue manifests a pure red colour. The heat is collecting in the interior. There is no need to ask which channel [is involved]. It is appropriate to use *tou ding qing shen san* to treat this.

tou ding qing shen san 透頂清神散, (Extremely Penetrating Clear Spirit Powder)

Pig's tooth, Gleditsia sinensis pods, asarum, angelica dahurica, angelica sinensis. Make these herbs on the right in equal measures into a fine powder and mix them. The patient should hold water in their mouth and sniff a small amount of the powder into the nose. The patient will spit out the water. Do this again and again until the patient sneezes. If the patient doesn't sneeze, sniff in the powder again. If there is epidemic illness in the house, the patient and the healthy people should all do this.

1 Lynes, 1999, p.68.

Third Image: Centre Dry Tongue



The tongue manifests a red colour, with a small black tongue shape inside. It indicates that evil heat is congealing inside. The sovereign fire is effulgent. It is appropriate to use *liang ge san* 涼膈散 (Cool the Diaphragm Powder) or *da chai hu tang* 大柴胡湯 (Major Bupleurum Decoction) to bring this heat downward.

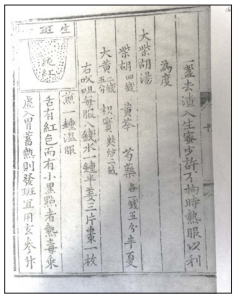
Fresh Liquorice 2 *liang*, Rhubarb Root 2 *liang*, Forsythia 4 *liang*, Gardenia 1 *liang*, Mint, Scutellaria, Mirabilite each 1 *liang*.

Each time take 1 *liang* [of the herbs] with 2 bowls of water and at least 20 pieces of Lophatherum. Boil all of these down to one bo2wl. Take out the dregs. Drink it until there is a bowel movement.

Da chai hu tang (Major Bupleurum Decoction)

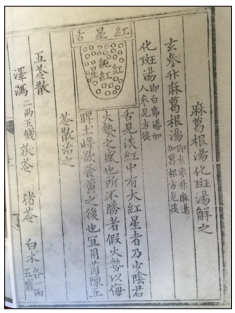
Bupleurum 4 *qian*, scutellaria and white peony, each 1 *qian* 5 *fen*,[2] Rhubarb Root 2 *qian* 5 *fen*, Bitter Orange 2 *qian*.

Fourth Image: Fresh Spotted Tongue



The tongue is a red colour with small black dots. Heat toxins are entering the Stomach, taking advantage of its weakness. The amassing heat leads to the spotting. It is appropriate to use *xuan shen sheng ma ge gen tang* 玄參升麻葛跟湯 (Cimcifuga and Kudzu Decoction with Pueraria added), or *hua ban tang* 化班湯 (Transform Maculae Decoction) to treat it. The prescription is seen later.

Fifth Image: Red Star Tongue



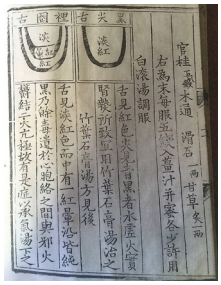
The tongue manifests a pale red colour, with many red stars in the middle. This is *shaoyin.* The sovereign fire is effulgent. If there is no effulgence, it is false heat due to the rebellion of the Spleen earth. The body will become yellow. It is appropriate to use *yin chen wu ling san* 茵陳五苓散 (Artemesia and Five Ingredient Powder with Poria) to treat it.

Alismatis 2 *liang* 5 *qian,* Poria, Polyporus, Attractylodes each 2 *liang* 5 *qian,* Cinnamon 5 *qian,* Akebia and Talc 1 *liang* Toasted Liquorice 1 *liang*.

Make the herbs on the right into a powder. Each time, take 5 *qian*. Add a small amount of *jiang zhi* 薑汁 and *mi* 蜜 (honey). Used boiled water to mix it and drink it.

2 A *fen* is a Chinese measure of weight, equal to 0.3gm.

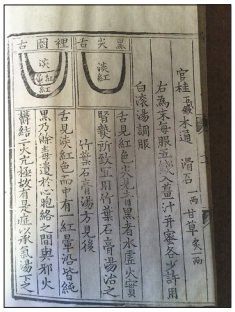
Sixth Tongue Image: Black Tipped Tongue



Tongue 6 right

The tongue manifests a red colour with a blue/black tip. There is weakness in the Water, while Fire is replete. This is caused by heat in the Kidneys. It is appropriate to use *zhu ye shi gao tang*竹葉石膏湯 (Lophatherum and Gypsum Decoction) to treat it. The recipe follows later.

Seventh Tongue Image: Interior Enclosed Tongue[3]



Tongue 7 left

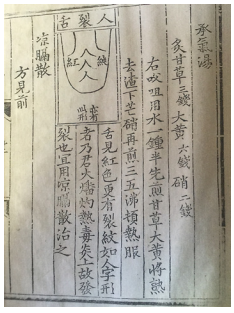
The tongue manifests a pale red colour with a red stain in the middle and all the edges are pure black. The toxins remain within the Heart Protector (*xinbao* 心包) and combine with evil fire. The two fires are extremely hyperactive, which leads to the symptoms.[4] Use *cheng qi tang* to downbear the fire.

*cheng qi tang*承氣湯 (Order the Qi Decoction)[5]

zhi gan cao 炙甘草(Toasted Liquorice) 3 *qian, da huang* 大黃 (Rhubarb Root) 6 *qian*, *mang xiao* 芒硝 (Mirabilite) 2 *qian.*

Chew[6] the drugs on the right. Use 1 ½ cups water to boil the *zhi gan cao* and *da huang* first. Take out the dregs, put *mang xiao* in and boil again. Do this three to five times more and drink it all when it is hot.

Eighth Tongue Image: '人' (*ren,* person) Cracked Tongue



The tongue manifests a red colour, with cracks like [the character] *ren.* This is effulgent sovereign fire and heat toxins rising upwards. This is the cause of the cracks. It is appropriate to use *liang ge san* 涼膈散 (Cool Diaphragm Powder) to treat it.

liang ge san, see the recipe above.

---

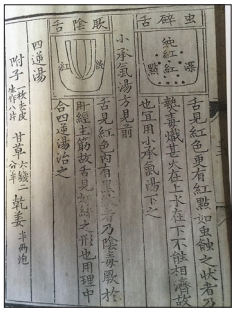
3 Title is describing a central red colour to the tongue body, which is edged with black, as if enclosed.

4 We saw in Chapter 2 that the Heart Protector, like the Heart, is associated with fire in correspondence theory. With the seventh tongue image, the two fires referred to are the fire normally associated with the Heart Protector- which in this case we are told is inappropriately active- and the evil fire of the disease. When these two fires – one inappropriately active and one toxic – combine, the body is damaged, symptoms are expressed, and this tongue presentation is generated.

5 Although the recipe is entitled *cheng qi tang*, the drugs listed are those of the *Shanghan lun* recipe *tiao wei cheng qi tang* 調胃承氣湯 (Regulate the Stomach and Order the Qi Decoction)

6 During the Yuan dynasty, chewing the drugs was a common way of processing rather than grinding before brewing the decoction. I am grateful to Dr. Ji Zhenghan 纪征瀚 from the Beijing Academy of Chinese Traditional Medicine for this information.

Ninth Tongue Image: Insect Bitten Tongue

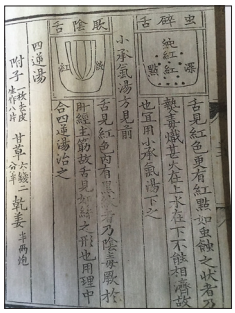


Tongue 9 right

The tongue manifests a red colour with red dots, as if insects have eaten it. This is heat toxin exuberance. Because the Fire is above, and the Water is below, they can't assist each other. It is appropriate to use *xiao cheng qi tang* 小承氣湯 (Minor Order the Qi Decoction) to descend it [the fire].

xiao cheng qi tang, the recipe is seen before.[7]

Tenth Tongue Image: *Jue Yin* 厥陰 (reverting *yin*) Tongue



Tongue 10 left

The tongue manifests a red colour with black lines on the inside. This is *yin* toxins attacking the *jueyin* 厥陰 (reverting *yin*) Liver channel. The Liver governs the sinews, thus it looks like threads on the tongue. Use *li zhong* 理中 (Regulate the Middle) together with *si ni tang* 四逆湯 (Four Opposition Decoction) to treat it.

si ni tang

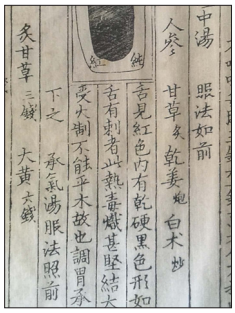
fu zi 附子 (Aconite) 1 fresh[8] root. Peel it, and split it into 8 pieces. *gan cao* 甘草 (Liquorice) 6 *qian*, 2 ½ *fen, gan jiang* 乾姜 (dried ginger, quick fried) half a *liang.* Grind the drugs on the right. Each time, take 5 *qian* with 1 cup of water. Boil it down to 6 *fen*. Take it warm, at any time.

li zhong tang

Administer as for the above recipe

ren shen 人參 (Ginseng), *zhi gan cao, bai zhu* 白术 (Attractylodes), quick fried.

Eleventh Tongue Image: Inner Black Tongue



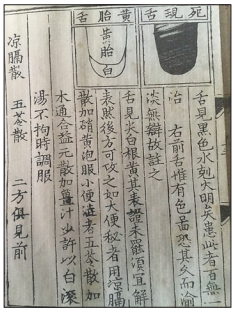
The tongue manifests a red colour. Inside, there is a dry, hard, black coloured shape like a little long tongue, with thorns. This is because of exuberant heat toxin binding and hardening the Large Intestine. Metal is overcome by Fire, which makes it unable to control Wood. Use *tiao wei cheng qi tang* 調胃承氣湯 *(*Regulate the Stomach and Regulate the Qi Decoction*)* to downbear [the heat toxin]. The method of taking *tiao wei cheng qi tang* is the same as above.

zhi gan cao 3 *qian, da huang* 6 *qian, mang xiao,* 2 *qian.*

7 This is a confusing statement, as the recipe has not yet been given in the text.

8 Fresh signifies a root that has not been processed, such as dry-frying.

Twelfth Tongue Image: Death is Occurring Tongue

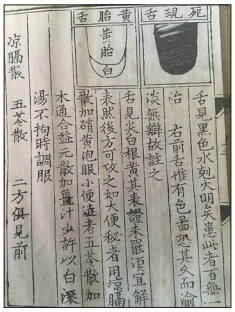


Tongue 12 right

The tongue manifests a black colour. It is evident that Water defeats Fire. Not one out of one hundred people with this tongue can be treated.

Although the tongue to the right has colour, it will lessen as time goes by which means one won't be able to tell the difference, so I note it.[9]

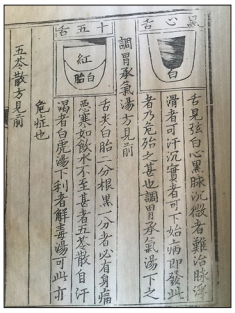
Thirteenth Tongue Image: Yellow Coated Tongue



Tongue 13 left

The tip of the tongue is white and the root is yellow. The exterior symptoms of the patient have not disappeared. It is necessary to release the exterior first, then you can attack the interior. If there is constipation, use *liang ge san* with *mang xiao* and *da huang* added to the decoction before drinking. For rough urination use *wu ling san* with *mu tong*木通 (Akebia) and *yi yuan san* 一元散 (Augment the Primal Powder). Add a small amount of *jiang zhi* 薑汁 (Ginger Juice). Use boiling water to make this and drink it at any time.

Fourteenth Tongue Image: Black Centre Tongue

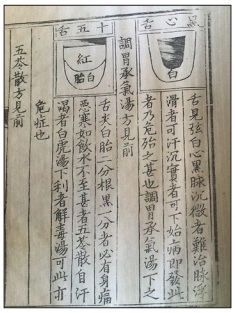


Tongue 14 right

The tongue manifests a white edge and black heart. The pulse is deep and mild. It is difficult to treat. If the pulse is floating and slippery, you can treat by causing sweating, while if the pulse is deep and replete, you can treat by downbearing. When this sort of tongue appears at the onset of the disease, the condition is extremely dangerous. Use *tiao wei cheng qi tang* to downbear.

The recipe for *tiao wei cheng qi tang* can be seen above.

Fifteenth Tongue Image[10]



Tongue 15 left

When a tongue has a white coat on the tip which is twice as extensive as a black coat on the root, the person will certainly have body aches and an aversion to cold. If the person is able to drink water, use *wu ling san*. If there is spontaneous sweating and thirst, use *bai hu tang* 白虎湯 (White Tiger Decoction). If there is diarrhoea, use *jie du tang* 解毒湯 (Resolve Toxins Decoction). This is also a dangerous disease. See the recipe for *wu ling san* above.

---

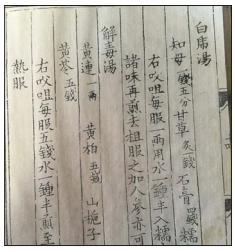
9 In other words, the 11th tongue image was coloured with both red and black, and this one is completely black. The author is expressing his concern that over time the colours may fade to make the 11th and 12th tongues appear identical.

10 Tongues from this point onward in the *Jinjing lu* are simply numbered and not named with a description.

bai hu tang

zhi mu 知母 (Anemarhenna) 1 *qian* 5 *fen*, *zhi gan cao* 1 *qian*, *shi gao* 4 *qian* , *nuo mi* 糯米 (Glutinous Rice) 1 pinch.

Chew the drugs on the right. Each time, take 1 *liang.* Use 1 ½ cups of water. Put in the *nuo mi* to boil first, then put in the rest of the drugs. Boil again. Take out the dregs and drink it. *Ren shen* could be added also.



Text with drug recipes following Tongue 15

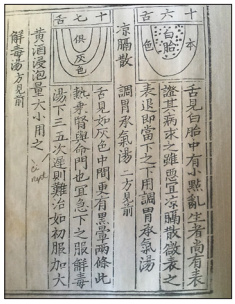
jie du tang

huang lian 黃連 (Coptis) 1 *liang*, *huang qin* 黃芩 (Scutellaria) 5 *qian*, *huang bai* 黃柏 (Phillodendrum) 5 *qian, shan zhi zi* 山梔子 (Gardenia Fruit) 20 pieces. Chew the drugs on the right[11] as before. Each time take 5 *qian* of the drugs with 1 ½ cups of water. Boil down to 1 cup. Remove the dregs, and drink it hot.

Sixteenth Tongue

A tongue with a white coat, with little black spots unevenly distributed in the centre. The exterior pattern remains. Although the disease is malign, it is appropriate to use *liang ge san* to release the exterior. As soon as the exterior pathogen disappears, downbearing should be applied with *tiao wei cheng qi tang.*

liang ge san and *tiao wei cheng qi tang,* these two recipes are seen above.



Tongue 16 right

Seventeenth Tongue

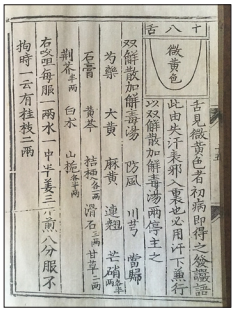
A tongue of grey colour with two black rings staining the centre. This is heat overwhelming the Kidneys and the *ming men* 命門 (vital gate). It is appropriate to downbear immediately. Use *jie du tang* 解毒湯 (Clear Toxins Decoction). Downbear with *jie du tang* three to five times. If you delay, it is difficult to treat. For the first dose, drink it with *da huang* which has been soaked in wine. Adjust the dosage [for adult or child].

See the recipe for *jie du tang* above.

Tongue 17 left

11 The list of drugs is to the right on the page.

Eighteenth Tongue



The tongue manifests a slight yellow colour at the beginning of the disease with delirious speech. This is because the person did not sweat, and the exterior evil went inside. It is necessary to sweat and downbear simultaneously.

Use *shuang jie san* 双解散 (Double Releasing Powder) with *jie du tang*

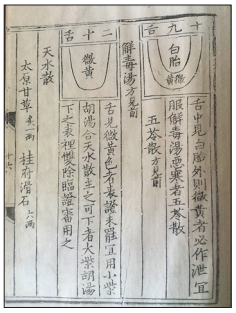
fang feng 防風 (Saposhnikoviae), *chuan xiong* 川芎 (Ligusticum), *dang gui* 當歸 (Angelica), *shao yao* 芍藥 (Peony), *da huang, ma huang* 麻黃 (Ephedra), *lian qiao* 連翹 (Forsythia), *mang xiao,* ½ *liang* each.

shi gao 史膏 *(*Gypsum*), huang qin, jie geng* 桔梗 (platycodon) 1 *liang* each

hua shi 滑市 (Talc) 3 *liang, gan cao* 2 *liang, jing jie* 荆芥 (Schizonepeta) ½ *liang*, *bai zhu, shan zhi [zi]* ½ *liang.*

Chew the drugs above. Each time the dose is 1 *liang.* Use 1 ½ cups of water, and add 3 pieces of *jiang* 姜 (Fresh Ginger). Decoct this into 8 parts. Take it at any time. It is also said that there is 2 *liang* of *gui zhi* 桂枝 (Cinnamon Twig) in the decoction.

Nineteenth Tongue

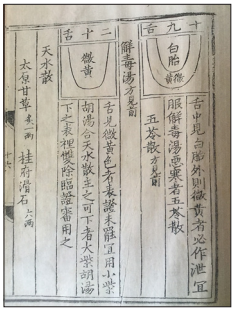


Tongue 19 right

The tongue manifests a white coat in the middle, and is slightly yellow at the edges. It is certain that this person will have diarrhoea. It is appropriate to take *jie du tang.* If there is aversion to cold, it is appropriate to take *wu ling san.*

See the recipe for *wu ling san* above. See the recipe for *jie du tang* above.

Twentieth Tongue



Tongue 20 left

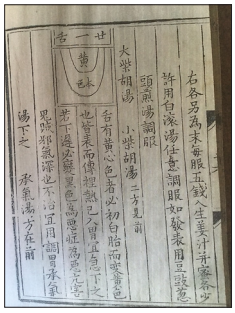
The tongue manifests a light yellow colour. The exterior pattern has not disappeared. It is appropriate to use *xiao chai hu tang* and *tian shui san* to control it. If necessary, you can use *da chai hu tang* to downbear. This eliminates both interior and exterior [evil] patterns. With this situation, be very careful before using this [treatment].

tian shui san 天水散 (Heavenly Water Powder)

Prepared *tai yuan gan cao* 太原甘草 (Liquorice from Taiyuan) 1 *liang, gui fu hua shi* 桂府滑石 (Talc from Guilin) 6 *liang.*

Chew the drugs into a fine powder separately. Each time take 5 *qian*. Put in a small amount of *sheng jiang zhi* and *mi*. To effuse the exterior, use *dou chi* and *cong tou* to add to the decoction, boil it, and take it.

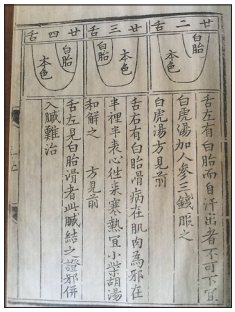
Twenty-first Tongue



The tongue has a yellow centre. It is certain that at the beginning the coating was white and then changed into yellow. This is exterior evil going into the interior. Heat has gone into the Stomach. It is appropriate to downbear immediately. If you delay, the colour of the coat is certain to change into black, which is malign. This is because the evil excess is harmful, and the evil *qi* has entered deeply into the interior like a ghost. If it is very deep, it can't be treated. It is appropriate to use *tiao wei cheng qi tang* to downbear.

See the recipe for *tiao wei cheng qi tang above.*

Twenty-second Tongue



Tongue 22 right

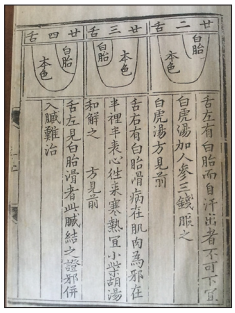
The tongue manifests a white coat on the left and there is spontaneous sweating. This can't be downborne. It is appropriate to use *bai hu tang* with 3 *qian* of *ren shen*.

The recipe for *bai hu tang* is above.

Twenty-third Tongue

The tongue manifests a white and slippery coat on the right. The disease is in the muscle layer. The evil is half interior and half exterior. There is certain to be alternating fever and aversion to cold. It is appropriate to use *xiao chai hu tang* to resolve it. See this recipe above.

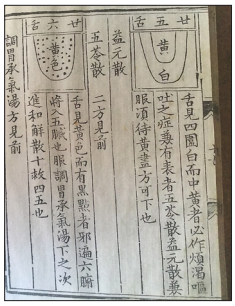
Twenty-fourth Tongue



Tongues 23 centre, 24 left

The left side of the tongue manifests white and slippery coat. This is a disease of visceral bind.[12] The evil binds to the viscera and it is very difficult to treat.

Twenty-fifth Tongue



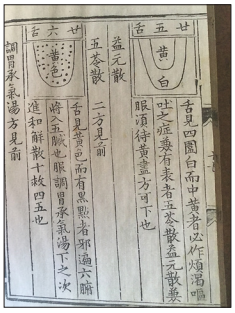
Tongue 25 right

The tongue manifests white around the edges and yellow in the middle will have symptoms of vexation and thirst with vomiting. [This patient] has exterior patterns. [Use] *wu ling san* and *yi yuan san* [together]. When the yellow disappears, you can downbear.

See the recipes for *wu ling san* and *yi yuan san* above.

12 Visceral bind is a condition of *yang* deficiency and cold accumulation in the organs. Liu, 2015, pp.22–23.

Twenty-sixth Tongue



Tongue 26 left

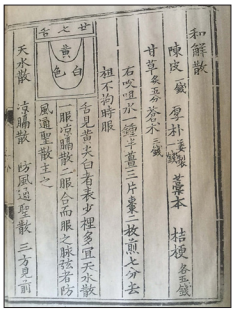
The tongue manifests a yellow colour and small black dots. The evil has spread to the six *fu* 腑(*yang* organs),[13] and is proceeding towards the five *zang* 臟 (*yin* organs).[14] Use *tiao wei cheng qi tang* to downbear. Then use *he jie san* 和解散 (Harmonise and Resolve Powder). Four or five out of ten may be saved.

he jie san

chen pi 陳皮 (Tangerine Peel) 1 *qian*, *hou po* 厚朴(Magnolia Bark), stir fry this with *jiang* 1 *qian, gao ben* 藁本 (Ligusticum Root), *jie geng, zhi gan cao,* 5 *qian* each, *cang zhu* 蒼术 (Attractylodes Rhizome), 3 *qian*.

Chew the drugs above on the right,[15] use 1 ½ cups water, 3 slices of *jiang and* 2 pieces of *da zao* 大棗 (Dates). Decoct into 7 parts. Remove the dregs and drink at any time.

Twenty-seventh Tongue



The tongue manifests a yellow coat [at the root] and white tip. This is a less exterior pattern than an interior pattern. It is appropriate to give one dose of *tian shui san* 天水散 (Heavenly Water Powder) and two doses of *liang ge san.* If the patient has a string-like pulse, use *fang feng tong sheng san* 防風通聖散 (Saposhnikovia Powder that Sagely Unblocks) to treat it.

Twenty-eighth Tongue

The tongue manifests a yellow [coat] and is rough and fissured. The heat has already entered the Stomach. The evil toxins are deep, and there is Heart Fire with vexation and thirst. It is appropriate to use *da cheng qi tang* 大承氣湯 (Major Order the Qi Decoction) to downbear immediately. The body [of the patient] is yellowing. Use *yin chen hao tang* 茵陳蒿湯 (Virgate Wormwood Decoction). For blood in the stool, use *di dang tang* 抵當湯 (Appropriate Decoction). For water [accumulation] at the sides of the ribs, use *shi zao tang* 十棗湯 (Ten Jujube Decoction). For severe chest constriction, use *da xian xiong tang* 大陷胸湯 (Major Decoction [for Pathogens] Stuck in the Chest. For glomus, use *da huang xie xin tang* 大黃瀉心湯 ([Rhubarb] Drain the Epigastrium Decoction).

---

13 The *fu* internal organs are defined as those which receive, contain and transmit food and drink, examples being the Stomach, Intestines, and Bladder. Xie, 2002, p.14.

14 The *zang* internal organs are defined as those which produce, transform and store essential *qi*, examples being the Heart, Spleen, Lungs, Kidneys and Liver. Xie, 2002, p.14.

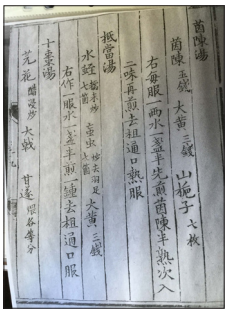
15 This is a reference to the drug list's position in the text.

da cheng qi tang

hou po, dry fry with *jiang, 3 qian, zhi shi* 枳實 (Immature Bitter Orange), stir fry, 2 *qian*

da huang 2 *qian*, *mang xiao* 2 *qian*. Each dose is 1 *liang.*

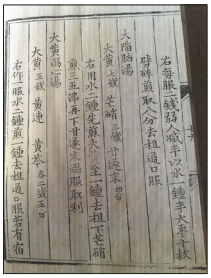
Take 1 ½ cups water, bring to boil, then put in the *da huang*. Bring to the boil again several times. Put in the *mang xiao*. Boil three to five times. Remove the dregs, and drink it hot.



Recipes following Tongue 28

yin chen tang

yin chen 5 *qian, da huang* 3 *qian*, *shan zhi zi* pieces. On the right, each dose is 1 *liang*. In 1/1/2 cups water, cook *yin chen* half way, then add the other drugs, and decoct. Remove the dregs and take it hot.



Recipes following Tongue 28

di dang tang

shui zhi 水蛭 (Leech) 7 pieces, fried with *nuo mi*, *meng chong* 虻蟲 (Horse Fly) wings and tail removed, *da huang* 3 *qian*. Make the drugs on the right into one dose. Use 1 ½ cups of water, decoct to 1 cup. Discard the dregs, and take it during the night.

shi zao tang

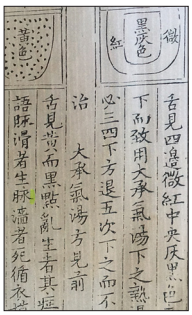
yuan hua 芫花 (Genkwa Flower), soak it in vinegar, then fry it, *da ji* 大戟 (Euphorbia root) and *gan sui* 甘遂 (Kansui Root) roast in equal amounts.

Each time, take 2 *qian* of the drugs on the right [in the text] Reduce to half the dose if there is weakness [in the patient]. Use 1 ½ cups of water, 10 pieces of *da zao*, chopped, decoct into 8 parts. Discard the dregs and drink it during the night.

Twenty-ninth Tongue

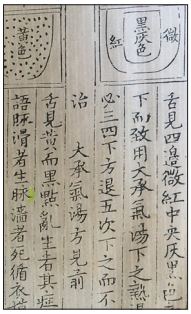
The tongue's edges are a light red, the centre of the tongue is a grey-black colour. This has been caused by failing to downbear. Use *da cheng qi tang* to downbear. When the fever disappears, [the patient] can recover. You must be sure to downbear three or four times to clear the fever. If the fever is not cleared after downbearing five times, [the disease] can't be cured.

The recipe for *da cheng qi tang* is above.



Tongue 29 right

Thirtieth Tongue

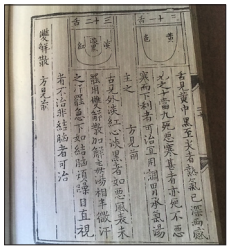


Tongue 30 left

The tongue manifests a yellow colour with black spots scattered on it. There is certain to be thirst. There may be delirious speech and a slippery pulse. [The patient] with the slippery pulse will survive, but with a rough pulse, they will die. If they are picking at the bedclothes, they can't be treated. If you downbear with *da cheng qi tang* and the stool that you see afterwards is black, this also can't be treated.

The recipe is above.

Thirty-first Tongue

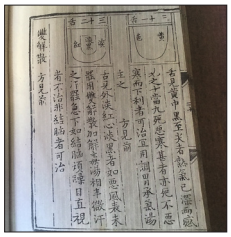


Tongue 31 right

The tongue manifests yellow and in the centre there is black from the middle to the tip. The heat has already penetrated deeply. If this is seen in double contraction,[16] nine out of ten will die. Those with a severe aversion to cold will die as well. If there is no aversion to cold but there is diarrhoea, it can be treated and it is appropriate to treat it with *tiao wei cheng qi tang*.

The recipe is above.

Thirty-second Tongue

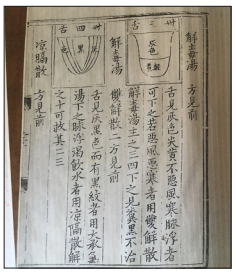


Tongue 32 left

The tongue manifests a pale red colour at the edges and a pale black in the centre. If there is aversion to wind, the exterior pattern hasn't disappeared. Use *shuang jie san* with *jie du tang*, a half dose of each, to cause light sweating. After sweating, downbear immediately. If there is chest constriction with agitation and vexation, eyes that are fixed (or staring), this can't be treated. If there is no chest constriction, it can be treated.

The recipes for *shuang jie san* and *jie du tang* are above.

Thirty-third Tongue



Tongue 33 right

The tongue manifests a grey colour with a yellow tip. If there is no aversion to wind and a floating pulse, you can downbear. If there is aversion to wind and cold, use *shuang jie and san jie du tang* is indicated. If there is a black stool after three or four downbearings, it can't be treated.

Both recipes are above.

16 Double contraction (*liang gan* 兩感) is a disease in the *yin* and the *yang* channels, see Wiseman and Ye, 1998, p.145.

Thirty-fourth Tongue

The tongue manifests a pale black colour and has black lines, use *da cheng qi tang* to downbear. If there is a floating pulse and thirst with a desire to drink water, use *liang ge san* to treat it. Two or three out of ten can be saved.

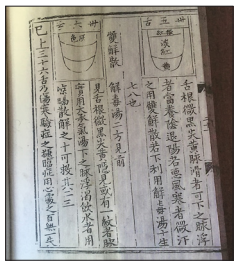
The recipe for *liang ge san* is above.

Tongue 34 left

Thirty-fifth Tongue

The tongue manifests a pale black colour at the root and has a yellow tip. If the pulse is slippery, you can downbear. If the pulse is floating, you should nourish the *yin* to restrain the *yang*. If there is an aversion to wind and to cold, use a little *shuang jie san* to cause sweating. If there is diarrhoea, use *jie du tang*. Seven or eight out of ten can survive.

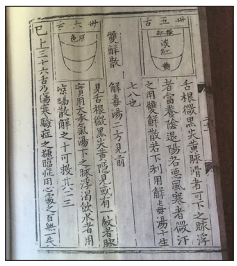
The recipes for *shuang jie san* and *jie du tang* are above.



Tongue 35 right

Thirty-sixth Tongue

The tongue manifests a light black root with a yellow tip, and may have faint lines. If the pulse is replete, use *da cheng qi tang* to downbear. If there is a floating pulse, with thirst and a desire to drink, use *liang ge san* to treat it. Two or three out of ten can be saved.



Tongue 36 left

These 36 tongues seen above make it possible to quickly diagnose the patterns of *shanghan* disease. Use your intelligence to treat with this in practice and you will always be successful. Not 10 people out of 100 will be lost if you use this method.

Section ii: Discussion of the *Jinjing Lu*

The *Aoshi shanghan jinjing lu* 敖氏傷寒金鏡錄 (Scholar Ao's Golden Mirror Record of Cold Damage, hereafter *Jinjing lu*) is the earliest extant text in the Chinese medicine corpus devoted singularly and specifically to diagnosis according to the presentation of the tongue. It was compiled by Du Qingbi 杜清碧 in 1341, during the Yuan dynasty (1279–1368). Du tells us he added 24 of his own illustrations to a 12-image text written by someone only known to us Ao Shi 敖氏. It is the earliest extant text to portray images of the tongue that reflect disease states in the body. These images were revolutionary not only due to their originality, but also due to their unique performative function as they paired changes in the tongue's appearance with progressions of illness and recommended treatment. In this chapter, I will discuss the illustrated text in terms of its unprecedented use of tongue images, the information they provide, and the relevance this had to practice at the time it appeared. Additionally, in Chapter 6 I will show that a rare quality attended this text. In its Latin translation, it could be transmitted across medical cultures to Europe and provide clinically useful information to European physicians, without any requirement for an understanding of the theoretical constructs underlying Chinese medicine.

Description of the *Jinjing Lu*

The *Jinjing lu* is a collection of 36 images of tongues, each of them elucidated with text, and accompanied by relevant drug recipes. The tongues reflect visually articulated stages in the progression of *shanghan,* or cold damage, disease and they reveal variations in its severity, its location in the body, and occasionally the likely prognosis for the sufferer. The associated drug recipes are chosen to address the disease states indicated by those variations in tongue appearance, with the stated intention of curing. Thus, we can see that the repository of drug formulary knowledge in China was integrated with tongue inspection from at least the Yuan dynasty.

Moreover, it is apparent that the drug recipes of the *Jinjing lu* are overwhelmingly taken from those found in the *Shanghan lun*, as might be expected given the title of the tongue tex.[16] The Han classic had been singularly innovative in its focus on the transformation of symptoms displayed during the course of externally contracted illness, in contrast to the illnesses resulting from a break down of the internal physiology of *qi, Yin* and *Yang*, as was the innovative character of medicine in the classical *Huangdi neijing* corpus.[17] It provided

16 I note here that although most of the drug recipes are taken from the Han era *Shanghan lun*, there are exceptions. The 1341 edition, the earliest received, includes a scattering of recipes first recorded during the Tang, Song, and Jin-Yuan dynasties. This will be discussed further later in the chapter.

17 The *Shanghan lun* understands externally contracted disease as arising when the body is invaded by outside evils, particularly wind and cold. These work their way into the body's channels and net-

varied drug recipes that were required to address the changing manifestations of the diseases as they might be experienced by sufferers. The *Jinjing lu* was a pictorial innovation with similar purpose, however, it functioned very differently. In contrast to the *Shanghan lun's* provision of a theoretical explanation of pattern identification[18] the images of the tongue are set out in concise succession, providing a manual that could conceivably function as a direct diagnostic tool.

I will show in this chapter and in Chapter 5 that during the time frame in which the text became more widely disseminated we begin to see physicians making more frequent records of their observations of tongue appearance. Also, it is noticeable that these observations were most likely to be made during the course of febrile illness in a patient. During the Ming and Qing dynasties, the *Jinjing lu* was circulated, annotated, and appended to case record compilations and theoretical writings of physicians. As a consequence, tongue inspection as a diagnostic practice gradually became embedded in the medical culture of China.[19]

Although woodblock printing was already possible in the Song dynasty, during which scholars now place the authorship of the original, lost, 12 tongue text, it seems both this text and Du's were hand drawn. In his preface, Du Qingbi refers to the original 12 drawings as a manuscript text.[20] He declares that he has added his own drawings and notes that although he has coloured in one of the illustrations, he fears it may fade in time, so he describes the colours in words.[21] A Ming dynasty manuscript of the *Jinjing lu,* entitled *Shanghan diandian jin* 傷寒點點金 (Little Pieces of Gold for Cold Damage) is also hand drawn with coloured images, demonstrating the survival of the manuscript genre beyond the establishment of printing culture. Later in the Ming, the physician Xue Ji 薛己 (1487–1559) published the *Jinjing lu* with his case records. This text is an uncoloured woodblock version and, with it, the *Jinjing lu* had its first wide dissemination. Most versions of the original 36-tongue text in

work systems, known as the *jing luo* 經絡. As this occurs, the body responds by manifesting various constellations of symptoms, or patterns, known as *zheng* 証.

18 It is the identification of the presenting patterns that prompts the selection of appropriate drug recipes. The discernment of patterns accompanying illness and the ability to differentiate among them is fundamental to Chinese medicine, though this has implied different things at different times. The changing understanding of patterns is discussed in more detail in Scheid (2002).

19 Evidence of this can be seen in the inclusion of the tongue text in the *Xueshi yi'an* 薛氏醫案 (Scholar Xue's Medical Case Records)(1529) by Xue Ji 薛己, in the *Zhengzhi zhunsheng* 証治准 繩 (Indispensible Tool for Pattern Treatment) (1602) by Wang Kentang 王肯堂, and the expanding collection of tongue texts authored in the Qing dynasty. One such is the *Shanghan shejian* 傷寒舌鑑 (Tongue Reflections in Cold Damage)(1668), written by Zhang Deng 張登, which includes 120 tongue images.

20 Solos, 2013, p.18. From early years of the Song dynasty, the imperial government set out to produce printed editions of the Confucian Classics and commentaries, dictionaries, and compilations of texts from literature, medicine, law, dynastic histories and the Buddhist canon. Texts that were not part of the imperial government's project tended to remain manuscript texts, until possibly well into the Ming dynasty. For a discussion of the rise of printing in the Song and later, see McDermott in Brokaw, 2005, pp.55–104.

21 Textual statement accompanying the 12th tongue of the *Jinjing lu.*

circulation today are based on Xue Ji's compilation.[22] Extant tongue diagnosis texts are comprised of both printed and hand-drawn copies of Du Qingbi's 1341 text.[23] The 36 tongues were expanded upon over time to include ever greater numbers of images.

There is an additional intriguing fact to consider in terms of the *Jinjing lu*. We know that Sun Simiao's 孫思邈 (*c.*581–682) *Beiji qianjin yaofang* 備急千金要方 (Essential Prescriptions Worth a Thousand Gold Pieces for Emergencies) contained illustrations, no longer extant, as they were dropped out of the text in later publications.[24] It isn't possible to say exactly why this has occurred, but we might surmise that it was quite difficult to create faithful representations of body images for the woodblock printing process. In contrast, we can imagine that the standardised image of a tongue would not present great difficulty to the craftsman. Perhaps the *Jinjing lu* was one of the earliest illustrated medical texts to be printed, if not the earliest.

Figure 1 Four Red Tongue images, from right to left: Raw spotted tongue, Red with stars, Black tipped tongue, and Tongue tongue encircled with black. From Ming dynasty text *Shanghan diandian jing* 傷寒點點金 (Little Pieces of Gold for Cold Damage), 1445. Courtesy of the archives of the Library of the Academy of Chinese Medicine, Beijing

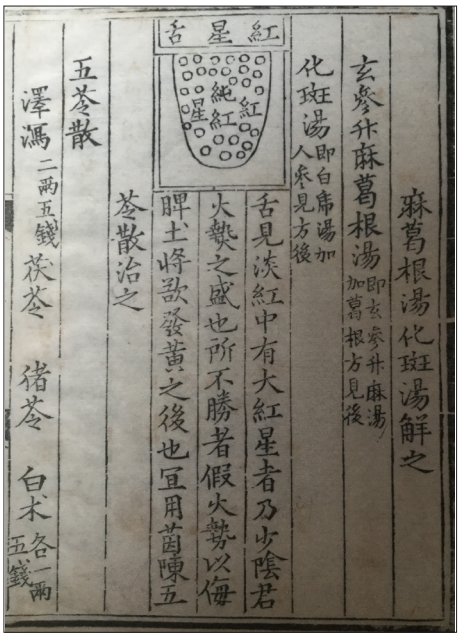


Figure 2 Red Tongue with Stars. From Ming dynasty text *Xueshi yi'an* 薛氏醫案 (Scholar Xue's Case Records), 1529. Courtesy of the archives of the Library of the Academy of Chinese Medicine, Beijing

22 Solos, 2013, p.18.

23 The Beijing archives have numerous hand-drawn copies of the *Jinjing lu,* some as recently created as the 1950s. Cullen, 2005, p.37 notes '…well into the twentieth century, not everyone who could read a book or wanted to apply its contents could buy one'.

24 Lo, 2005, pp.227–228, Despeux, 1987, pp.47–48.

It is also significant that the *Jinjing lu* was beginning to become widely known at a time when there was a particularly receptive audience. As we saw earlier, during the Ming dynasty societal changes were impacting upon medical culture, leading to a change in the types and numbers of individuals taking up the practice of medicine. The means by which these practitioners were able to pursue their training was also undergoing a transformation.[25] As the numbers of gentry able to pursue scholarly activities rose during the Ming, the numbers of civil service posts stagnated. With opportunities for a civil service career becoming ever more scarce, medicine became more attractive as a suitable profession and the ranks of new physicians expanded. We saw in Chapter 2 that medical texts had become more easily accessible by the Ming, but the number of physicians with clinical experience and wisdom gained through long practice could not possibly keep pace. Consequently, access to the mentoring of an experienced physician, crucial to a refinement of clinical skills, was also scarce and posed another difficulty for scholars of medicine.

The relentless series of epidemics suffered in Ming and Qing China generated a desperate need for physicians to provide effective medical treatment.[26] The information in the tongue text, paying specific attention to aspects of epidemic illness, therefore must have appeared to be both appropriate and immediately useful as physicians struggled to cope with critical illness on a massive scale. As we will see when looking at the text in more detail, one image goes so far as to say that when one encounters a particular type of tongue, 'you don't need to ask which channel', just give the patient this recipe. It is easy to imagine the attraction this would have had for an inexperienced doctor thrown in at the deep end of practice.

Questions about Images, and Answers they Provide

The function of the image is a core consideration in my study of the *Jinjing lu*. This resonates with the analysis undertaken by Jones and Galison's *Picturing Science, Producing Art*, in which they explore the connections and relationships between visual representations and the forming of knowledge. They consider:

> … the practices and institutions through which those images are embedded in culture. … [and] ask what work these images do, and what historically specific conditions make it possible for them to count as part of culture.[27]

25 I introduced this demographic change and the ensuing transformations in medical learning in Chapter 1. However, I will refer to them several times in this dissertation, as they were major, if not primary, stimulants for the growing interest shown in the *Jinjng lu* by the late Ming and Qing dynasties, evidenced by its' repeated publication.

26 Hanson, 2011, discusses the Ming epidemics and the various ways in which physicians attempted to address the inadequacies of the medical canons.

27 Jones and Galison, (eds), 1998, p.6.

I find it useful to address three of the questions posed by these authors, which are particularly germane to this dissertation, namely, who is the audience for these tongue images, how do the images shape knowledge for the viewer, and what can be known as we look at the images.[28]

We can assume that the intended audience for the 36 tongue drawings of the *Jinjing lu* would have been literate physicians, or at least, those with an interest in medicine. This is borne out by one of the prefaces to the 1341 edition of the text, written by Xiao Huangming 蕭璜鳴[29] which begins with a simple question. '夫醫者何? What is the purpose of a doctor?'[30]

Xiao goes on to castigate physicians for their failure to read books on methodology and pulse examination, and even accuses them of ignorance of the clinical symptoms that appear before them. He states two basic rules of treatment:

> 大抵病之輕淺者，即為和解，深重者，即便攻擊.
>
> Generally, if an illness is not very serious and it is superficial, harmonise and resolve; if it is very serious and deep, immediately attack.[31]

This is a succinct instruction whose simplicity and basic quality suggest it is addressed to an audience not superbly accomplished in medical skills. Interestingly, this preface never actually refers to the appearance of the tongue.

The answer to my second question, how do the images shape knowledge for a viewer, is nicely set out in the preface written by the text's author, Du Qingbi.[32] In contrast to the above preface, this one does indeed refer to the tongue, and notes the changes that are illustrated in the tongue images that will follow. Du begins by signalling that he intends this text to be far from narrow in its scope, telling the reader that for a physician to properly treat a patient, it is necessary to differentiate carefully among, and identify, several, aspects of the encounter with the patient. These aspects are set out as the pulse, the symptoms, the tongue, the patterns and the appropriate treatments.[33] His focus, however, is on the tongue, and he proceeds to elaborate on its changing appearance in the course of illness.

> 人得病，初在表，則舌自紅而無白苔等色。表邪入於半表半裡之間，其舌色變為白苔而滑見矣。切不可不明表症。故邪傳於裡未罷。則舌必見黃苔。乃邪已入於胃，急宜下之。苔黃自去而疾安矣。至此醫之不依次。誤用湯丸，失於遲下，其苔必黑。變症蜂起，此為難治。若見舌苔如漆黑之光者，十無一生。此心火自炎，與邪熱二火相攻。極熱則有兼化水象。故色從黑而應水化也。若乃臟腑皆受，邪毒日深，為症必作熱症，雖宜下之，乃去胸中之熱，否則其熱散入絡臟之中，鮮有不死者。譬如火之自炎，初則紅，過則薪為黑色炭矣。此亢

28 Ibid. pp.1–23.
29 Xiao dates his preface *First day of Emperor Zhi Zheng's reign-title change 1341*.
30 Xiao Huangming, (pr.1341), 1529 (ed.), *Aoshi shanghan jinjing lu*, p.7.
31 Ibid., p.7.
32 The preface written by Xiao (pp.6–7) and Du Qingbi's preface (pp.6–7) to his own text are both found in the 1341 edition of the *Jinjing lu,* a copy of which is held in the library archives of the Academy of Chinese Medicine, Beijing.
33 This statement suggests a parity between the information to be gained from attention to the pulse and tongue presentations, which contrasts with the *Shanghan lun*, in which the pulse presentation is privileged and the tongue appearance is marginal.

則害，承乃制。今以前十二舌明著，猶恐未盡諸症，復作二十四圖，並方治列於左，則區區推源尋流，實可決生死之妙也。[34]

A person becomes ill. At first this illness is in the exterior. The tongue is normally red, and there is no white coating or any sort of colour. The exterior evil then enters the space which is half exterior, half interior. The tongue colour changes so that there is a white coat with a slippery appearance. You must not fail to understand this exterior illness, or the evil will pass into the interior where it will lodge. Then the tongue will present a yellow coating. At this point the evil has entered into the Stomach. It is necessary to immediately purge. Then the coating will turn from yellow to white and the diseases will ease. If the doctor does not proceed in this way and misuses decoctions or pills, and does not purge [the patient], the tongue coating will become black. The disease will become like wasps swarming, and make things very difficult to treat. If you see a tongue coating that looks like black lacquer, not one in 10 people will survive. This is surely heart fire blazing. The evil heat and this fire attack together. This extreme heat seems to transform into water, and therefore the colour becomes black as if it reflects water.[35] If the evil toxins then enter deeply into the organs, the disease is surely a heat disease, then it is appropriate to purge, which will get rid of the heat in the chest. Otherwise, if this heat disperses into the channels and organs, very few will not die. For example, in the beginning a fire burns red. But after a while, the firewood becomes black and then like charcoal. This is extreme damage. Before there were 12 tongues. But [I] feared they did not show all the illnesses, so I added another 24 pictures. On the left side, the method of treatment is set out. Do not delay as from these roots you can affect the balance between life and death.

Du's preface is succinct, yet establishes a plethora of things to which the physician must be attentive once a person becomes ill. He outlines a progression of illness which is manifested in the appearance of the tongue. Tongue colour is the primary indicator of the deterioration of health, as it changes from red, to white, to yellow, to black.

Table 1 Tongue Colour Significance of Colour Treatment Required

Red colour	Healthy, no pathology *	No treatment needed
White slippery coating	Evil *qi* half interior, half exterior	Treat appropriately
Yellow coating	Interior heat, cited in Stomach	Purge immediately

* In the Han system of correspondences, the tongue is the orifice of the Heart, which is associated with the colour red, fire and heat.

At this point, if appropriate treatment is given [immediate purging], the patient will recover. If the window of opportunity is missed, consequences become dire.

Black	The evil *qi* gathers force and causes damage	Very difficult to treat
Black lacquer	Severe damage to the organs	Likely to be fatal

With this picture of disease progression from a superficial beginning to a deadly severity, Du presents a framework that is fastened on two primary ideas: changes in the colour of the tongue are of fundamental importance for a physician to note, and the presence of heat

34 Du Qingbi, (pr.1341), 1529 (ed.), p.6.

35 This reference is not to reflection in water, but to the fact that in the theory of correspondence, the colour black is associated with the element of water.

in the body is dangerous. Du could not have been more clear about the dangers associated with the presence of heat in the body than with his statement in the preface above that 'Otherwise, if this heat disperses into the channels and organs, very few will not die'.[36]

The intention of the text is to provide a graphic presentation of these basic facts, and to attune the clinical gaze of a physician reading the text, to these issues as seen in the presentation of the tongue.

A Question of Colour

The issue of colour has been integral to diagnostics since the Han. Each of the five colours, with their associated correspondences that we saw in Chapter 2, can be either auspicious and inauspicious in character, depending on the quality of the colour. Without images, analogies must be provided to create a picture for the reader, as was done by the authors of the canonical texts. This is beautifully demonstrated in Catherine Despeux's translation, below, of the following passage from the *Suwen*.

> 五臟之氣, 故色見青如草茲者死, 黃如枳實者死, 黑如炲者死, 赤如衄血者死, 白 如枯骨者死, 此五色之見死也.
>
> 青如翠羽者生, 赤如雞冠者生, 黃如蟹腹者生, 白如豕膏者生, 黑如烏羽者生, 此五色之見生也.[37]
>
> When the complexion shows green like fresh grass, it is a sign of death; yellow like *poncirus trifoliata*,[38] it is a sign of death; black like coal, it is a sign of death; red like coagulated blood, it is a sign of death, white like dry bones, it is a sign of death. These are the inauspicious manifestations of the five colours.
>
> When green shows like the wings of a mandarin duck, it is a sign of life; red like the cockscomb, it is a sign of life; yellow like the belly of the crab, it is a sign of life; white like pork fat, it is a sign of life; black like a crow's wing, it is a sign of lie. These are the manifestations of the life of the five colours.[39]

The overriding issue in this gradation of colour is lustrousness. The colours without it portend death; those with it, proclaim life. The *Jinjing lu* reflects this significance of colour in its depiction of the gradual deterioration of the fresh, healthy red tongue as it becomes sullied with coatings, dried and cracked, and beset with spots and sores. Finally, the tongue which has lost its red colour completely and become black, is captioned in the text as *si xian she* 死現舌 (death tongue)

---

36 Du Qingbi, (pr. 1341), 1529 (ed.), p.6.
37 Anonymous [*c.*1st century CE] 1992, pp.155–156.
38 The fruit of the trifoliate orange.
39 Translation by Despeux, 2005, p.191.

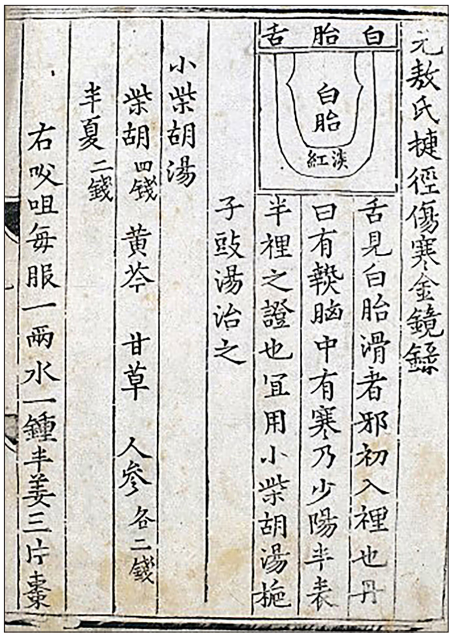


Figure 3 First tongue in the *Jinjing lu*, showing a white coat and red tip. Courtesy of the archives of the Library of the Academy of Chinese Medicine, Beijing

The *Jinjing lu's* 36 images of the tongue that follow can be said to be a page-turner, as we can appreciate by revisiting the text accompnaying the first three illustrations and seeing how quickly they move from one disease manifestation to the next.

To begin, the first image (Fig. 3) depicts a tongue with a white, slippery coat and red tip, accompanied by text explaining that this signifies a recent attack of *shanghan*. Additionally, we learn that this means there is cold in the chest and heat in the *dantian*.[40] We are told that this tongue appearance indicates a *shaoyang* pattern,[41] which denotes an illness described as 'half outside and half inside'. The text goes on to declare that the drug recipe required to treat this pattern of illness is *xiao chai hu tang* 小柴胡湯 (Minor Bupleurum Decoction) with the addition of *zhi zi chi tang* 梔子豉 (Gardenia and Prepared Soybean Decoction). The ingredients of these recipes with dosages follow, as well as the manner of their preparation and administration. All of this diagnostic information is simply encapsulated with the image of this particular tongue presentation, after which a succinct prescriptive treatment is clearly set out.

The second tongue we see is completely red (Fig. 4). This, we learn, means heat is now amassing in the interior of the body, and rather fantastically, there is no need to try to

40 The *dantian* referred to here is located in the area between the umbilicus and the pubic bone, and is considered a place of *qi* storage, particularly important in meditative practice. A broader meaning described in Daoist writing identifies three *dantians*, the upper being located in the head, the middle in the chest and the lower beneath the navel. *Huangtingjing*, 1949, pp.122–131. For a more extensive discussion of Daoist thought regarding the *dantian* and its relationship to the body's internal organs, see Hussein-Farzeen, 2004, pp.187–226.

41 *Shaoyang* is one of the diseases patterns discussed at length in the *Shanghan lun*. See Chapter 2 for an extended discussion.

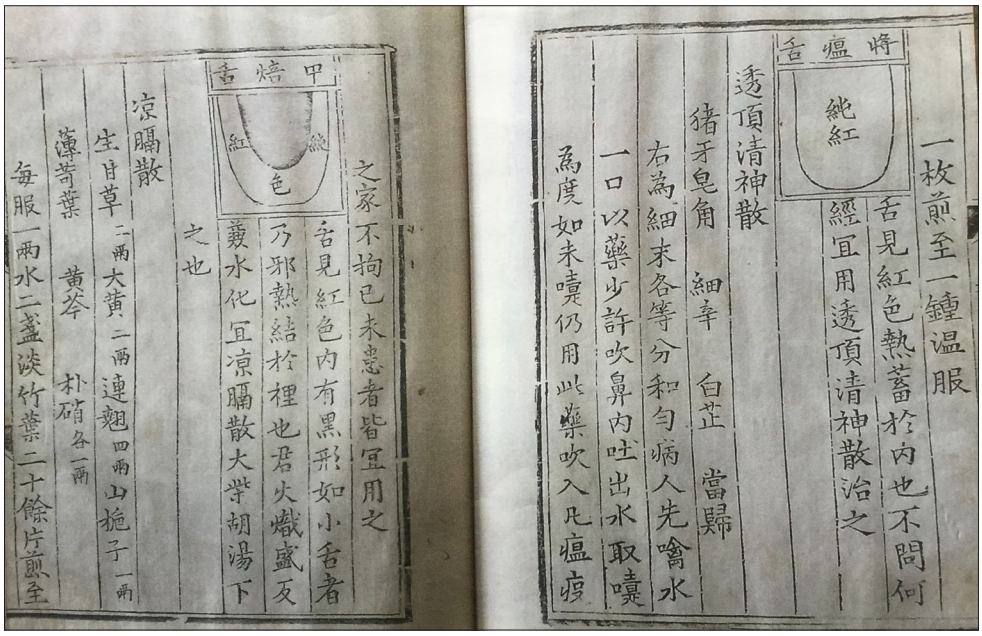


Figure 4 (right) Second tongue in the *Jinjing lu*, depicting a 'pure red tongue'
Figure 5 (left) Third tongue in the *Jinjing lu*, depicting a 'centre dry tongue'. Courtesy of the archives of the Library of the Academy of Chinese Medicine, Beijing

work out what channel might be involved in the illness.[42] The accompanying recipe is *tou ding qing shen san* 透頂請神散 (Extremely Penetrating Clear Spirit Powder).[43] As before, the herbs, the dosages, the manner of preparation and administration of the decoction are given.[44]

A next turn of the page, and our third image shows another red tongue (Fig. 5), this time with a small 'tongue-shaped' black area in the centre. We read that this means evil heat is congealing in the interior of the body, and that 'sovereign fire is effulgent'.[45] In other words,

42 As we saw in Chapter 2, *Shanghan lun* theory sets out an understanding of externally contracted disease in terms of its location in the six-channel system of the body ranging from *taiyang* to *jueyin*. The identification of the affected channel system was a critical aspect of arriving at a correct diagnosis. The cavalier dismissal of the need to identify the channel involved represents an astounding diagnostic shorthand.

43 This recipe is usually now translated into English as Clear Spirit Powder.

44 Uniquely among all the recipes in this text, this one is also recommended to be given to all the healthy people in the house as well as any sufferer.

45 Chinese medicine posits two types of fire in the body. The first, Sovereign fire, is the fire of the Heart, and is considered supreme. The organs associated with this sovereign fire are the *xin* 心 (Heart) and *xiaochang* 小腸 (Small Intestines). The second, Ministerial fire, is the fire of the *mingmen* 命門 (vital gate) and the organs associated with it are the *xinbao* 心包 (Heart Protector) and *sanjiao* 三焦 (triple burner). Ministerial fire is also considered to be intimately connected with the *yang* aspect of the Kidneys and the Liver. The relationship between these two fires is succinctly noted by Wang Kentang 王肯堂 (1549–1613) in his *Yixue jinliang* 醫學津梁 (The Gateway to Medicine), in which he states：*xin zhihuo junhuo ye ganshen zhihuo xianghuo ye xiangcon junling zheye junhuo yidong xianghuo congzhi* 心之火君火也 肝腎之火相火也相從君令者也君火一動相火從之 (The Heart's fire is sovereign fire, the fire of the Liver and Kidney is ministerial fire. Ministers follow the orders of the sovereign. As the sovereign fire moves, the ministerial fire follows.) Wang [1641] 1919, pp.1–2. This was perhaps a well-known dictum, as the same statement can be found in Sun [1636] 1984, p.28.

while there may have been heat accumulating in the second image, this is what things look like when that heat is poised to do even greater damage. The drug recipes associated with this image are *liang ge san* 涼膈散 (Cool Diaphragm Powder) and *da chai hu tang* 大柴胡湯 (Major Bupleurum Decoction). Again, we find the drug recipe in detail along with directions for its preparation and administration.

One of the intriguing features of this text is that while knowledge of certain theoretical bases of medical thought is assumed – as, for instance, the understanding of what a *shaoyang* illness might be or what is meant by 'sovereign fire' – the instructions accompanying the drug recipes are extremely detailed. I suggest that this would be exactly the right combination of information for a physician with a great deal of scholarly information about medicine, but sparse experience with clinical practice. Such a physician would undoubtedly have read medical texts and would be aware of the strategy to, for instance, cool interior heat. But without clinical experience the question might well remain as to exactly how one became certain of the degree of heat, and which cooling recipe would be the best choice. That determination came with proficiency at pulse diagnosis – or for the physician in possession of the *Jinjing lu* – by simply comparing a patient's tongue to an image.

The text and drug recipe accompanying the 2nd tongue image provide rather laboriously detailed instructions. We can surmise this would not have been necessary for an experienced physician who would likely have administered this treatment strategy or seen its use in practice.

> Make these herbs on the right[46] in equal measure into a fine powder and mix them. The patient should hold water in their mouth, and sniff a small amount of the powder into the nose. The patient will spit out the water. Do this again and again until the patient sneezes. If the patient doesn't sneeze, sniff in the powder again. [47]

The *Shanghan lun* allocates at least 26 lines[48] to the discussion of *shaoyang* illness. But the *Jinjing lu* gives one concise image to identify this half exterior, half interior stage of illness, and on the next page, presents a tongue image that depicts a situation in which interior heat is fully realised. And in a further turn of the page, that heat has become virulent enough to be described as congealing, and capable of turning the centre of a patient's tongue black.

---

46 In the text, the ingredients of the recipe are listed on the right side of the page.

47 Du, [1341] 1529 (ed.), p.9. During the Jin-Yuan era, when the *Aoshi shanghan jinjing lu* was compiled, we find the *gongxie xuepai* 攻邪學派 (attack evil current of learning). Sneezing as a treatment modality was systematised in this school and was particularly used in cases of epidemic illness. I am grateful to Dr. Ji Zhenghan 纪征瀚 from the Beijing Academy of Chinese Medicine for her explanation of this type of treatment, its common use in the era, and its relevance to the *Jinjing lu.* There is also a resonance in this treatment with the spitting that was part of shamanic practice as noted in Mawangdui texts. This is discussed in Harper, 1998, pp.163–166, and 176–178.

48 The term 'lines' denotes the individual statements regarding particular phases of illness that comprise the structure of the *Shanghan lun.* It is worth noting that at the time Du Qingbi compiled the *Jinjing lu* the *Shanghan lun* texts would also contain copious annotations, creating a rather slow and thoughtful read, requiring a significant understanding of Chinese medicine theory.

I contend that a physician possessing this visual representation of disease progression would have been able to make short cuts in their diagnostic process. By simply matching the recipe information in the text to the appearance of the tongue of the patient before them, they would have a reasonable expectation that their treatment would produce a beneficial outcome. Referring back to Jones' and Galison's question, how does an image shape knowledge for the viewer, I would argue that the tongue images served to narrow the field of knowledge in which a physician searched for effective treatment. The images achieved this by focusing attention on a discrete aspect of the body, the tongue, and by setting out specific parameters of its colour, moisture, coatings, shapes and surface geographies. It then defined their value in terms of diagnosis and treatment.

As we will see in selected case records in Chapter 5, the degree of theoretical understanding utilised by eminent physicians to arrive at a diagnosis, not to mention an effective treatment, was considerable, and likely to take years to master. The tongue text would not so much make that process unnecessary as it would assist those still aspiring to that mastery to have a greater chance of success in practice.

Clearly, those viewing the *Jinjing lu* were literate, as the images worked in conjunction with written description and prescription. But the combination of memorable depictions, such as that of the 3rd tongue image[49] which presents a little black tongue-shaped area inside a pure red tongue, coupled with the rapid succession of changing disease patterns manifested in changing tongue presentations, offered a shortcut to diagnosis that was altogether new. Written descriptions of tongue appearance, such as we will see in Cheng Wuji's 成無己 (*c*.1050–1144) *Shanghan mingyi lun* 傷寒明理論 (Discussion on Clarifying the Principles of Cold Damage),[50] would be unlikely to produce the same immediate certainty as would the ability to compare an image on a page with the actual tongue presented by the patient being treated. An inexperienced physician in possession of this tongue diagnosis manual could expect to make a reasonably accurate pairing of patient tongue with graphic image, and having done so, prescribe appropriately. Consequently, the simple answer to the earlier question, what does the viewer know by looking at these images, is, quite a lot.

In addition to intimately connecting images with procedures for treatment, the *Jinjing lu* also placed considerable emphasis on the timeliness of treatment, with warnings that if a physician delayed, the disease could become fatal. This facet of treatment strategy harks back to the story presented in the introduction of this dissertation, about Bian Que, who repeatedly warned lord Huan that he needed treatment, only to have Huan repeatedly refuse it. When Bian Que saw Huan for the last time, he knew by looking that the disease had

49 Du [1341] 1529 (ed.), p.10.

50 Cheng [1142] 1990, pp.34–36. This text will be discussed at greater length in Chapter 4. It presents fifty symptoms physicians are exhorted to be aware of when diagnosing *shanghan* illness. The coating of the tongue is 22nd in this list.

become fatal, and he therefore fled. The ability to discern fatal illness was a vital skill for a Han physician, as treatment that resulted in death for the patient would likely do so for the physician as well. Such legacies can linger. In its insistence on timeliness of treatment and depiction of tongues whose appearance suggested patient survival was either unlikely[51] or impossible, the *Jinjing lu* may have provided useful information for some practitioners above and beyond a selection of drug recipe interventions.

As we learned earlier, by the later years of the Ming dynasty, numbers of new entrants to the practice of medicine had outstripped the numbers of learned and experienced physicians with whom they could apprentice.[52] Consequently, many physicians found it necessary to rely on little more than personal study and practice to attain clinical skills, which was a rupture in the longstanding mode of medical learning. For such a physician, the daunting task of treating patients suffering with serious illness would have been hugely simplified with access to the information in the *Jinjing lu.* In other words, the basic necessities of practical knowledge relating to the treatment of *shanghan* illness was streamlined and prescribing was simplified. In this sense, we can describe the *Jinjing lu* as a teaching tool. It would have functioned as more of a survey course than an in-depth study, but we can argue that what it lacks in prescriptive elegance[53] it makes up for with efficacy.

In Chapter 5 we will see cases of the eminent physician Ye Tianshi 葉天士 who practiced during the Qing dynasty and was able to take the conceptual structure of a standard drug recipe yet modify its ingredients and dosages to match specificities of illness. This artistry of personalising drug prescription is a hallmark of his case records. The *Jinjing lu,* on the other hand, offers very little in the way of adjustments to its drug recipes. When they do occur, they take the form of an additional set recipe, included to address a secondary presentation.[54] An example of this is in the commentary accompanying the 19th tongue, which shows a white coat in the middle of a tongue with light yellow edges. We are told that a patient with such a tongue will have diarrhoea, and *Jiedu tang* 解毒湯 (Resolve Toxicity Decoction) is indicated. However, if this person also has an aversion to cold, *wuling san* 五苓散 (Five Ingredient Powder with Poria) should be prescribed as well.

---

51 The text accompanying the *Jinjing lu's* 12th tongue (Du, [1341] 1529 (ed.), p.13) states clearly that 'not one out of one hundred with this tongue can survive'. The 21st tongue (*Ibid.*, p.16), notes that if you don't downbear [purge] immediately, the disease will become untreatable, and the 26th tongue (*Ibid.,* p.17) advises that the best you can hope for is to save four or five out of ten patients.

52 The change in the numbers of scholars who aspired to a profession in medicine was afoot since the Song, becoming quite pronounced by the Ming. See Hymes, 1987, McDermott, 2005, Leung, 2013,pp.146–147 among others. For the perspective of Xu Dachun 徐大椿, a Qing physician, on this changed demographic of medical practitioners, see Unschuld, 1990, p.368.

53 Elegance in prescribing was a hallmark of some eminent physicians, and we will see this illustrated in Chapter 5 in the work of Ye Tianshi 葉天士.

54 There are three instances in which individual drugs are added to set recipes, for tongues 13, 17 and 22. However, this does not compare with the refinement in prescribing we will see with the Qing physicians.

The one entry that calls for a more discriminating differentiation of symptoms is the 28th tongue. The accompanying text translation follows.

> The tongue manifest yellow and is rough and fissured. The heat has already entered the stomach. The evil toxin is deep, and there is heart fire with vexation and thirst. It is appropriate to use *da cheng qi tang* 大承氣湯 (Major Order the Qi Decoction) and downbear immediately. If the body [of the patient] is yellowing, use *yin chen hao tang* 茵陳蒿湯 (Virgate Wormwood Decoction). If there is reckless blood, use *di dang tang* 抵當湯 (Appropriate Decoction). If there is water accumulation at the sides of the ribs, use *shi zao tang* 十棗湯 (Ten Jujube Decoction). For severe chest constriction, use *Da xian xiong tang* 大陷胸湯 (Major Pill [for pathogens] Stuck in the Chest). For glomus, use *da huang xian xiong tang* 大黃陷胸湯 (Rhubarb added to Major Pill [for pathogens] Stuck in the Chest). [55]

The text accompanying the 28th tongue image is certainly more detailed than others. Indeed, there are six different options to consider in prescribing, reflecting differing symptoms that might be seen with this particular tongue presentation, as seen in Table 2 below.

Table 2 Tongue 28: Tongue Appearance, Symptom Variations and Respective Recipes

Tongue and symptoms	**Drug recipe**
The tongue is yellow, rough and fissured	*da cheng qi tang* 大承氣湯 (Major order the *Qi* Decoction)
The tongue is yellow with the body also yellowing	*yin chen [hao] tang* 茵陳蒿湯 (Virgate Wormwood Decoction)
The tongue is yellow and the blood is reckless*	*di dang tang* 抵當湯 (Appropriate Decoction)
The tongue is yellow, there is water accumulation at the ribs	*shi zao tang* 十棗湯 (Ten Jujube Decoction)
The tongue is yellow and there is chest constriction	*da xian xiong tang* 大陷胸湯 (Major Decoction [for pathogens] Stuck in the Chest
The tongue is yellow and there is glomus**	*da*[*huang*] *huang*[*lian*] *xie xin tang* 大黃陷胸湯 (Rhubarb and Coptis Drain the Epigastrium Decoction)

* This notion of reckless blood essentially conveys the occurrence of inappropriate bleeding due to an accumulation of heat.

** Glomus (*pi* 痞) is defined as a localised subjective feeling of fullness and blockage. Wiseman *et al.*, 2014, p.242.

The drug recipes associated with this tongue image are more numerous than those called for with any of the other tongues. But significantly, each of these new prescriptions are discrete recipes, not modifications achieved with the addition or subtraction of particular drugs. Their commonality is that that they all deal with heat accumulation, all drain downward, with *shi zao tang* focusing on water accumulation and *di dang tang* focusing on reckless blood.

55 Du, (1341) 1529 (ed.), p.18.

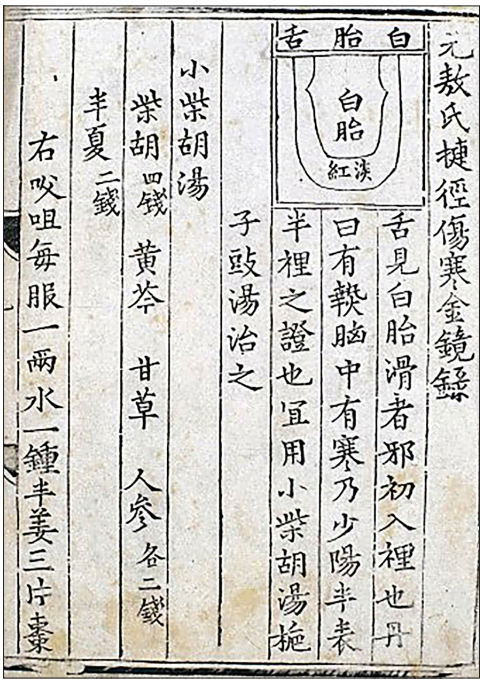


Figure 6 *Jinjing lu*: 1st tongue image showing white coat and a light red tip. Text notes that evil *qi* is 'half exterior and half interior'. Drug recipe is *xiao chai hu tang*.

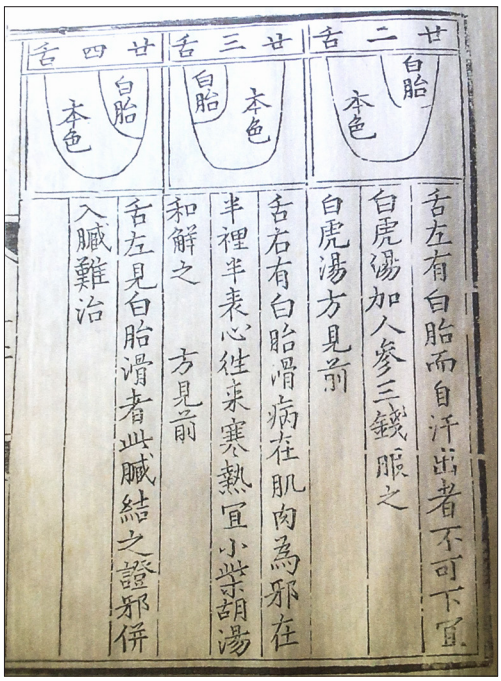


Figure 7 *Jinjing lu:* 23rd tongue image [centre] showing white coat on right with original colour on rest of tongue. Text again notes that the evil *qi* is 'half exterior and half interior'. Drug recipe is *xiao chai hu tang*.

The use of set recipes in the *Jinjing lu* tightens the connection between tongue presentation and disease manifestation. Each of the recipes works as a reflection of the particular image it accompanies. In Chapter 5, we will see physicians choose from extensive formularies and *materia medica* to craft elegant and bespoke recipes. The *Jinjing lu* on the other hand offers a comparatively meagre selection of fixed recipes with which to address the illnesses indicated by the tongue images it presents. In a real sense, each particular tongue image 'is' a particular recipe. A comparison of the 1st and the 23rd tongue images of the *Jinjing lu* illustrates this point (Figs 6 and 7).

In both of these tongue images, we see a white coating on a tongue that is otherwise of a normal colour. In the first image, the coating covers most of the tongue body, while in the 23rd image it covers only part of the right side of the tongue body. The text accompanying both state that the evil *qi* is half exterior and half interior.[56] The similarities and differences are outlined in Table 3 below, with the inappropriate presence of heat and cold featuring in the pathology.

56 This is a classic description of a *shaoyang* disease presentation, as described in the *Shanghan lun.*

Table 3 Comparison of the 1st and 23rd Tongue Image of the *Jinjing lu*

Tongue	Colour and coat	Temperature	Disease pattern
Tongue 1	White coat with a light red tip	Chest has cold *dantian* has heat	Evil *qi* is half exterior and half interior
Tongue 23	White coat on right side only, red colour elsewhere *	Cold and heat throughout the body, but in alternating sequence	Evil *qi* is half exterior and half interior

* The inscription on the tongue image is *ben se* 本色 which I translate as original colour, meaning this is the colour of the tongue body before illness struck. As Du Qingbi tells us in the preface to this text, the normal colour of a tongue is red.

The recipe *xiao chai hu tang* 小柴胡湯 (Minor Bupleurum Decoction) is indicated with both of these tongues, as both of them have a white coating that has not completely taken over the body of the tongue, and the original red colour of the tongue can still be seen. The difference between them comes with issues of heat, in which one tongue indicates a relatively static siting of heat and cold in the body, while the other indicates a fluctuating primacy of heat or cold. Neither can be said to show only one or the other temperature, but the way in which the heat or cold has taken up residence in the body is different, and therefore the tongue appearance is somewhat different. What the physician making use of this text does know for certain is that *xiao chai hu tang* = a disease which is half exterior, half interior = a normal colour to the body of the tongue and a form of white coating. He could choose to ask about issues of heat location or alternating chills and fever, which would allow him to decide whether or not to add *zhi zi chi tang,* the additional recipe accompanying Tongue 1. It is worth noting that either way, the primary disease presentation, described as half exterior and half interior, would be addressed.

The tongue images never tell us what is 'not'. They never tell us what might be indicated if 'the tongue is *not* yellow'. They reflect Fleckenstein's observation (referencing the work of Rudolf Arnheim on visual thought) that 'we cannot say 'not' with an image, we can only say 'is'.'[57] It therefore seems appropriate that the recipes of the *Jinjing lu* should stand firmly as themselves, just as the tongue images are displayed on the page in unchanging illustrations. The images may be able to indicate variances, but as with the above example, the image of a white tongue coat on red tongue body makes a clear statement of what 'is' half in and half out of the body of the patient, and that knowledge of what 'is' indicates the use of *xiao chai hu tang.*

57 Fleckenstein *et al.*, 2002, p.14.

Nuances and Definitives

The *Jinjing lu*'s intimate connection between recipe, bodily symptoms and disease manifestation has an antecedent in the *Shanghan lun*. As with the *Jinjing lu*, the *Shanghan lun* had heralded a medical culture which

> …used the formulas to classify symptoms. In essence, the formulas are the *Treatise's* manifestation types.[58]

We see this in the language of the *Shanghan lun*, with the recurring phrase *zhuzhi* 主之 (governs), as in Line 13, which states:

> 太揚病 頭痛 發熱汗出惡風桂枝湯主之.[59]
>
> In *taiyang* disease with headache, heat effusion, sweating and aversion to wind, *gui zhi tang* 桂枝湯 (Cinnamon Twig Decoction) governs.

These symptoms and this drug recipe indicate each other. The headache, fever, sweating and aversion to wind immediately suggest the prescription of *gui zhi tang*, and hearing that someone has been prescribed *gui zhi tang*, immediately suggests that they would have been beset with headache, fever, sweating and aversion to wind.

But the difference between the *Shanghan lun* and the *Jinjing lu* exceeds the simple presence or absence of images. The Han text goes on to notice variations in the basic disease presentation, and prescribe accordingly, as in the following three variations of the *gui zhi tang* presentation.

> Line 18
>
> 喘家作桂枝湯 加厚朴 杏子佳.[60]
>
> For panting patients suffering from *gui zhi tang* [pattern], add *hou po* (Magnolia Bark) and *xing zi* (Apricot Kernel).

> Line 21
>
> 太揚病下之後 脉促 胸滿者 桂枝去芍藥湯主之.[61]
>
> In *taiyang* disease, after precipitation, the pulse is skipping and [there is] fullness in the chest, *gui zhi tang* minus *shao yao tang* 芍藥湯 (Peony Decoction) governs.

> Line 62
>
> 發汗後 身疼痛 脉沉遲者 桂枝加芍藥生 姜各一兩 人參 三兩 新加湯主之.[62]
>
> After promoting sweating, the body has pain, the pulse is submerged and slow, *gui zhi* with *shao yao*, one *liang*(兩),[63] *sheng jiang* 生姜(fresh ginger) one *liang*, *ren shen* 人參 (Ginseng) three *liang* [as a] newly supplemented decoction governs.

---

58 Goldschmidt, 2009, p.146.
59 Zhang [*c.* 200] 1991, p.46.
60 Zhang [*c.*200] 1991, p.55.
61 Zhang [*c.*200] 1991, p.55.
62 Zhang [*c.*200] 1991, p.67.
63 A *liang* 兩 is a Chinese unit of weight measurement, roughly equal to 30gm.

In each of these cases, the 'governing' recipe of *gui zhi tang is* slightly but purposefully modified to better reflect the pathology underlying the situation at hand. There is a layered understanding of the recipe, allowing a physician to adapt the set ingredients of a single recipe in response to changing disease symptoms.[64]

It was Zhang Ji's intention to set out a comprehensive explanatory theory of *shanghan* disease and strategies for its treatment. He states clearly in his preface

> 雖未能盡愈諸病 庶可以見病知源.[65]
>
> Although [this book] is not yet able to completely cure disease, people will be able to look at disease and know its causes.

The *Shanghan lun* invites a physician to tailor the set drugs in a recipe, but it does not offer any systematic information regarding the appearance of the tongue. The *Jinjing lu*, on the other hand, is a concise, diagnostic manual that has an unapologetic quick and easy quality to the information it conveys through tongue images. Rather than encouraging prescriptive adaptation, it advocates a 'see this, do that' course of action.

While it might be tempting to see the *Jinjing lu* as nothing more than a quick *how-to* text fashioned for physicians of scant experience, though it is clearly useful in this way, I do not believe this to have been the only function of this text. The original lost text of 12 tongues is generally considered to have been a late Song dynasty creation. This is the same time period in which Cheng Wuji wrote the *Shanghan mingli lun,*[66] an innovative work on the diagnostic possibilities of the tongue, and which set out tongue presentations that correlated to stages of *shanghan* illness. Both the *Mingli lun* and the *Jinjing lu* signal a nascent development of tongue inspection lore. In the years between the *Mingli lun*'s publication (1144) and the publication date of the *Jinjing lu* (1341), the *sidajia*四大家, (four masters) of the Jin-Yuan era had established a challenge to the authority of the *Shanghan lun.* Beginning with Liu Wansu 劉完素 (1110–?) and his emphasis on the role of fire as the underlying pathology in epidemic disease, the *sidajia* and their followers posited new theories regarding febrile and epidemic illness. When Du Qingbi compiled the 36 tongue images in the Jin-Yuan dynasty, he succeeded in enriching and expanding the correlations between specific tongue appearances and *shanghan* disease well beyond what had existed with the original 12-tongue text. He had in fact positioned the tongue to function as a significant diagnostic tool in what would eventually become the *wenbing* current of learning.

---

64 In Chapter 5, we will see a further relaxing of the constraints of set recipes as physicians demonstrate the abiity to retain the purpose and function of a recipe while replacing most or all of the individual drugs.

65 Zhang [*c.*200] 1991, p.20.

66 A translation of the section of this text which focuses on the appearance of the tongue will be presented in Chapter 4.

Beyond the *Shanghan lun*: Innovation

Tongue appearance was a marginal feature in the *Shanghan lun*. I contend that the images of the *Jinjing lu* represented a ground breaking connection between image, theory and practice. The images in the *Jinjing lu* enabled the appearance of the tongue to direct treatment strategy. While both pulse and complexion diagnosis had fulfilled this role since the Han, we have no record of the appearance of the tongue being used to perform this function before the *Jinjing lu*.

Not only did the tongue images function in a revolutionary manner as treatment directives for *shanghan* illness, but some of the associated drug recipes in the *Jinjing lu* moved beyond the *Shanghan lun's* recipe collection. Four of the recipes are first recorded in the *Huangdi suwen xuanming lunfang* 黃帝素問宣明論方,[67] which was authored by Liu Wansu. As we learned in Chapter 2, Liu was one of the four great masters of the Jin-Yuan period, who argued that Fire was a root cause of most illness and should be eliminated from the body. The inclusion of Liu's recipes provides an early indication of the association tongues would come to have with the emerging development of *wenbing,* whose diagnostic and treatment focus was on issues of heat and Fire in the body.

The Table 4 (below) lists the drug recipes found in the *Jinjing lu*, along with the text and date in which they first appeared in written record.

Table 4 Drug Recipes of the *Jinjing lu* and Formularies of First Citation

Drug recipe	Formulary in which it is first mentioned
bai hu tang 白虎湯	*Shanghan lun* 傷寒論 (Treatise on Cold Damage) *c.*220
da chai hu tang 大柴胡湯	*Shanghan lun* 傷寒論
da cheng qi tang 大承氣湯	*Shanghan lun* 傷寒論
da huang xie xin tang 大黃瀉心湯	*Shanghan lun* 傷寒論
da xian xiong tang 大陷胸湯	*Shanghan lun* 傷寒論
di dang tang 抵當湯	*Shanghan lun* 傷寒論
[*fang feng*]*tong sheng san* 防風通聖散 [a]	*Huangdi suwen xuanming lunfang* 黃帝素問宣明論方 (Formulas from the Discussion Illuminating the Yellow Emperor's Basic Questions), 1172 [b]
ge gen tang 葛根湯	*Shanghan lun* 傷寒論
he jie san 和解散	*Jianyao jizhong fang* 簡要濟眾方黃地素問宣明論方 (Concise Formulas to Aid the Multitides), 1051 [c]

[a] This recipe is named both with and without the initial ingredient of Fang Feng.

[b] Liu [1172] 2000, p.71.

[c] This is the formulary cited as the earliest record of the recipe *ping wei san* 平胃散 (Calm Stomach Powder), whose function is to transform dampness and harmonise the stomach. This text is now lost, but the earliest extant record of the recipe is in the Taiping *huimin hejiju* (Formulary of the Bureau of Medicines of the Taiping Era) (1107), Taiping Huiming Hejiju (ed.) [1107] 1985, p.63. *He jie san*, prescribed for the 26th tongue, contains the four drugs in the *ping wei san* recipe ground together with the addition of g*ao ben* 稾本 (Ligusticum) and *jie geng* 桔 (platycodon). For both recipes, *sheng*

67 Liu [1172] 2000, pp.109–151.

Drug recipe	**Formulary in which it is first mentioned**
hua ban tang 化斑湯	*Shanghan lun* 傷寒論 [d]
[*huang lian*] *jie du tang* 解毒湯	*Waitai miyao* 外台秘要 (Arcane Essentials from the Imperial Library) 752[e]
li zhong wan 理中丸	*Shanghan lun* 傷寒論
liang ge san 涼膈散	*Taiping huimin heji jufang* 太平惠民和劑局方 (Formulary of the Pharmacy Service for Benefiting the People in the Taiping Era), 1107 [f]
shi zao tang 十棗湯	*Shanghan lun* 傷寒論
shuang jie san 雙解散	*Huangdi suwen xuanming lunfang* 黃帝素問宣明論方
si ni tang 四逆湯	*Shanghan lun* 傷寒論
tian shui san 天水散 [g]	*Huangdi suwen xuanming lunfang* 黃帝素問宣明論方
tiao wei cheng qi tang 調胃承氣湯	*Shanghan lun* 傷寒論
tou ding qing shen san 透頂請神散	
wu ling san 五苓散	*Shanghan lun* 傷寒論
xiao chai hu tang 小柴胡湯	*Shanghan lun* 傷寒論
xiao cheng qi tang 小承氣湯	*Shanghan lun* 傷寒論
xuan shen sheng ma tang 玄參 升麻湯	*Xiaoeryao zhengzhi jue* 小兒藥證直訣 (Craft of Medicines and Patterns for Children), 1119 [h]
yi yuan san 益元散 [i]	*Huangdi suwen xuanming lunfang* 黃帝素問宣明論方 [j]
yin chen wu ling san 茵陳五苓散	*Shanghan lun* 傷寒論
yin chen hao tang 茵陳蒿湯	*Shanghan lun* 傷寒論
zhi zi chi tang 梔子豉湯	*Shanghan lun* 傷寒論
zhu ye shi gao tang 竹葉石膏糖	*Shanghan lun* 傷寒論

jiang 生姜 (fresh ginger) and *da zao* 大棗 (dates) are added to the cooking water. Modern TCM formularies categorise *he jie san* as an associated recipe of *ping wei san*. Liu and Chen, 1999, p.304.

d Bensky *et al.* (2009) records a prescription with this name, as first listed in the 1798 Qing formulary, Systematic Differentiation of Warm Pathogen Diseases. However, there is a Shanghan *lun* listing of *bai hu jia ren shen tang* 白虎加人參湯 (White Tiger plus Ginseng Decoction). The *Jinjing lu* states that *hua ban tang* 化斑湯 (Transform Macula Decoction) i*s bai hu tang* (White Tiger Decoction) with *ren shen* 人參 (Ginseng) added. Since the Jinjing lu was composed long before the Qing Formulary, I have given the recipe source as the Shanghan lun, and make this note to remove any confusion about later sources.

e *Jie du tang* shares the same ingredients as the formula listed as *huang lian jie du tang* in the Tang formulary of 752.

f Taiping Huimin Hejiju (ed.) [1107] 1985, p.211.

g An alternative and more common name for this recipe is Liu Yi San 六一散 (Six to One Powder), as the drugs have a six to one dosage ratio. It was created by Liu Wansu, the author of the formulary in which it is first recorded.

h Qian [1119] 1983, p.99. This text does not contain a recipe by this particular name. However, the text does show a recipe entitled *sheng ma tang* 升麻湯 (*Cimcifuga* Decoction) [more commonly known as *sheng ma ge gen tang* 升麻葛根湯 *(Cimcifuga* and Kudzu Decoction) and lists *xuan shen* as a modification ingredient. This discrepancy regarding recipe name is also mentioned in Bensky *et al.*, p.41.

i This is a variant of Liu Wansu's favoured recipe, Liu Yi San 六一散 (six to one powder). By adding cinnabar, it becomes Yi Yuan San, recorded in Formulas from the Discussion Illuminating the Yellow Emperor's Basic Questions (1172). Bensky *et al.*, p.239, also say that *liu yi san, tian shui san, and shen bai san* are alternate names for yi *yuan san*.

j Liu [1172] 2000, p.234.

Shanghan Recipes and Beyond

Certainly, the overwhelming majority of medicinal recipes in the *Jinjing lu* originate in the *Shanghan lun,* but six of the recipes are first recorded in formulary literature compiled after the Han dynasty. They signal a movement away from a strictly *shanghan* understanding of febrile illness and suggest a wider possibility for the diagnostic information that could be demonstrated with the appearance of the tongue. Notably all six of the post-Han recipe inclusions deal with issues of heat.

One of these more recent recipes [*huang lian*] *jie du tang*「黄連」解毒湯*,* dates from the Tang dynasty and is designed to drain severe heat from the entire body. Its explanation specifically refers to heat gathering in all three burners.

Five further recipes in the *Jinjing lu* arise much later, and are first recorded in Song and Jin-Yian era formularies (see Table 5).

Table 5 Recipes of the *Jinjing lu* which Post-date the *Shanghan lun*

xuan shen sheng ma ge gen tang 玄參升麻葛根湯	Scrophularia Cimcifuga and Kudzu Decoction
liang ge san 涼膈散	Cool the Diaphragm Powder
[*fang feng*]*tong shen san*「方風」通腎散	Saposhnikovia Powder that Sagely Unblocks
tian shui san/ (aka) *liu yi san* 天水散 / 六一散	Heavenly Water Powder / (aka) Six to One Powder
he jie san 和解散	Harmonising Powder

A brief description of their therapeutic actions follows.

Xuanshen sheng ma ge gen tang is designed to enable the expression of rashes that do not surface evenly, in disease such as what, in modern terminology, we might now identify as measles. The complete expression of a rash is very important as this will allow interior heat toxins to escape the body. [68]

Liang ge san's stated purpose is described as:

> draining fire and unblocking the bowels by clearing the upper burner and draining the middle burner.[69]

Fang feng tong shen san is used to drain heat from both the interior and the exterior of the body by way of sweat, through evacuation through urination and through the bowels, and concurrently drain damp heat in the lower burner (*xia jiao* 下焦).[70]

---

68 The importance of facilitating the complete and timely expression of rashes in febrile illness to allow heat to escape from the body has been an aspect of treatment strategy in Chinese Medicine since the Han dynasty. For an example of this, see Zhang Ji (Zhang [3rd century] 1957, p.49) and Chao Yuanfang of the Sui dynasty (581–618) (Chao [610] 1991, p.326.) This continues to be seen as vital in contemporary textbooks, as for instance in Liu and Chen, 1999, p.177; Bensky *et al.*, 2005, p.42.

69 Bensky *et al.*, 2005, p.176.

70 Liu and Chen, 1999, p.177; Bensky *et al.*, 2005, pp.290–291.

Tian shui san, better known as *liu yi san*[71] clears both heat and dampness.[72]

He jian san is a variant[73] of *ping wei san*, which is designed to dry dampness move the *qi* to avoid blockages that might lead to heat accumulation.

As we can see, all of these five recipes which post-date the *Shanghan lun* deal with the presence of heat in the body, and offer another indication that despite the reference to *shanghan* in its title, the *Jinjing lu* was offering a diagnostic window into issues of heat that was no longer limited to a uniquely *shanghan* view. Certainly, the majority of recipes in the *Jinjing lu* are taken from recipes in the *Shanghan lun*. But Du Qingbi, in 1341, was looking beyond the *shanghan* recipes, and we will see in Chapter 5 that by the Qing dynasty, the inspection of the tongue was becoming a more frequently utilised aspect of diagnosis, and that this was particularly true in the practices of physicians who were considered to be advocates of the *wenbing* current of learning.

In the next section of this dissertation, I will present examples of case records from personal compilations by individual physicians or their disciples and those compiled into encyclopedic collections. These will demonstrate a growing attention to the tongue as a diagnostic tool. We will see that the early visual tongue lore of the *Jinjing lu* impacted upon diagnosis to the extent that by the Qing dynasty there are case records of eminent physicians in which the original diagnosis of a patient and further treatments occur in response to a patient's tongue presentation, with no attention paid to the iconic pulse.

Finally, in Chapter 6 we will follow the journey of a Latin translation of an illustrated, 36 tongue image text based on the *Jinjing lu*, as it travelled from China to Europe. In its wake we will see the emergence of fascinating European creation of tongue images.

---

71 This was created by Liu Wansu, one of the four masters of the Jin-Yuan era who, as we saw earlier, is well known for his attention to illness caused by heat and Fire in the body.

72 Liu [1172] 2000, p.117.

73 The drugs in this recipe include the four from *ping wei san* 平胃散 (Calm Stomach Powder) with two additions, *gao ben* 藁本 and *jie geng* 桔梗. For a discussion of *ping wei san* and its associated recipes and modifications, see Liu and Chen, 199, pp.294–316, and Bensky *et al.*, 2005, pp.687–689.

Chapter 4

Case Record Beginnings

'I wonder how many people I've looked at all my life and never seen.' John Steinbeck[1]

Introduction

This chapter and the following will present the genre of the medical case record, *yi'an* 医案, in China, paying attention to its history and its varieties of style and purpose. Case records demonstrate the evolution of the clinical encounter over time as well as adjustments in the focus of the physician's gaze. The picture before the practitioner may not have changed, but the elements deemed to have importance could and did vary. From the first unique vignettes inscribed on oracle bones to the illustrative asides within theoretical texts, to collections of cases in which the whole tells us far more than the individual parts, case records allow us to see not only what physicians did, but also what they valued in both the assessment of the patient before them and the role they themselves played in the encounter. The inscribers of the oracle bones kept an eye on the magical world of demons and ancestors that swirled around illness, the magical Han bird-man, Bian Que,[2] kept his eyes peeled for any sign of mortal illness in a patient so that he might avoid blame attached to treatment and the practitioners of the Song attuned themselves to the nascent prestige that might accompany a scholarly and effective practice. In other words, I will argue that, whatever the overall purpose of a particular set of case records, each also provides a window onto the diagnostic practices of a physician, and the nature of the critical lens we use to look through that window at those practices varies from one author, and one time, to another. And so, the different conclusions that we can expect to derive about practice from different phases of case history writing depends on contexts external to the case histories themselves, and therefore the nature of the analysis brought to them must also be different.

In this chapter and in Chapter 5, I will be looking at a selection of case histories from the Han to the Qing, and will demonstrate that however physicians reasoned theoretically and positioned themselves in the medical encounter, from Bian Que onwards, palpation of the *mai* maintained its position of diagnostic significance. Other assessments increased and diminished in their importance at various times.[3] In contrast, we will see that inspection of the tongue transformed over time from an incidental observation to a significant and useful

1 Steinbeck, [1961] 2001, p.68.
2 Brown, 2015, pp.41–62 shows the way both political and medical ethos impinge upon Bian Que.
3 Among the other assessments I refer to here are such concerns as complexion diagnosis, calendrical calculations and five phase correspondences.

part of the clinical encounter. I will show that the recorded use of tongue inspection as a diagnostic tool increased in frequency and importance slowly but inexorably from the Song onwards.

This chapter is divided into two sections. In the first, I will show that the earliest case records shared a foundational affinity with early legal record keeping. In Han texts we will see a resonance between illness and culpability in a legal case and between medical practice and culpability in the earliest extant collection of medical case records. The second section will be concerned with developments in the Song dynasty, during which there were government initiated aspects to medical record keeping. We will also see an attributed account of clinical interaction that presages the later Ming case record genre. At the close of this section, I will also present one of the first textual explanations of the diagnostic significance of the coating of the tongue, found in Cheng Wuji's 成無己 *Shanghan mingli lun* 傷寒名利論.

Section 1

Han Dynasty Medical Record Keeping and the Beginnings of Case Records

This chapter focuses on the development of medical record keeping. However, the keeping of records and the selection of the particulars of information that would be inserted into them was not historically a uniquely medical concern. Charlotte Furth points out that the word *an* 案 which we translate as *case* in the term *yi'an* 醫案 (medical case record) has manifold meanings and was particularly significant as a term in law. It is found in the legal writings in *Zhangjiashan* 張家山 tomb 247. This tomb, in Hebei, was excavated in December of 1983, and the writings on bamboo strips found within it suggest its occupant to have been an official with skill in law, medicine, military arts and calculation, who retired in 194 BCE.[4] At this time, *an* referred to an 'on the spot investigation into a crime'.[5] The *Zhangjiashan* 张家山 finds supplement an earlier collection, entitled *Fengzhenshi* 封診式, discovered in a tomb at the *Shuihudi* 睡虎地 burial site.[6] Together they seem to reflect the practical administration of one stage of Qin and Han law. There are cases of horse and cattle theft, robbery of money and possessions, absconding, avoiding conscription and murder. There are instances of fathers controlling sons for unfilial behaviour, and in one case asking for capital punishment or for amputation of the feet. There are two cases of punishing slaves, with one example of asking government officials to take a female slave and brand her by cutting of her nose for perceived arrogance and violence and refusal to work in the fields. One of the case histories reveals how contagious illness was considered a social offence:

4 Li Xueqin and Xing Wen, (2001), p.127 and n.14. Zhangjiashan transcripts.
5 Furth, Zeitlin, Hsiung, 2007, p.5.
6 Zhaoyang Zhang, 2010, p.85; Kleeman, 1998, p.25, n.48.

> Statement of a criminal investigation of ulcers:
>
> A 'deprived of the orders of honour' of such and such ward brought in a man of the ward making the accusation: 'I suspect ulcers and have brought him in (for examination).' They interrogated C, who made excuses, 'for three years, from time to time I have been ill with *bi* sores on the head, and my eyebrows have fallen out; I am not able to know what illness and I have had no other charges brought against me'. They ordered the physician D to examine him. D stated: 'C has no eyebrows, the roots have been cut off, the bridge of the nose is broken and the (nostrils ?) have rotted. When poked in the nose, he doesn't sneeze. His elbows and knees XXX to X beneath the feet, limping and bursting in one place. His hands have no fine hairs. When asked to call out his voice was weak. This is *libing* 癘病… .[7]

The fact that some of these case histories are almost identical from one tomb to another suggests that they were being copied from one set to another as models of legal practice. How these legal cases relate to real life records cannot be ascertained exactly, but it seems reasonable to assume that since they provide such unique detail that they have some basis in reality. Nevertheless, they become more important to this thesis when we think of them as establishing norms of legal practice, for the education and proper conduct of magistrates. Standardisation was an all-encompassing pursuit of the imperial government which needed to conform script, weights and measures, wheel and track sizes, for the effective conduct of administration across the newly established empire. Attempts to conform the practice of law and medicine was an extension of this practice, and it is therefore no surprise that it was exactly in the first half of the 1st century BCE, as we will see in detail below, that we also see the earliest extant case histories recorded within a legal context.

Centuries later, a comprehensive code of imperial law was compiled during the Tang dynasty (618–905), and the term *gong'an* 公案 denoted a document that concerned itself with matters that were under official deliberation.[8] *Gong'an* eventually became the customary classical term for a legal case. In both the legal and medical experience, the collection of facts, statements and observations can be used to chart a course towards normative ideals. Also in both legal cases and medical cases, a narrative unfolds in which as readers we can trace styles of practice and assumptions seen by the record keeper to be valid or invalid. In groups of medical case records, a mosaic begins to form, which displays the workings of a tradition at a particular point in time and culture. In the cases we see precedents created,

---

7 *Zhangjiashan er si qi hao zhujian zhengli xiao zu* 張家山二四七號竹簡整理小组 (2001), Strip 632, p.263. 癘病 *libing* is defined as pestilential disease or plague in modern dictionaries. Also, the *Huangdi neijing suwen*, *fenglun* treatise 黃帝內經素問, 風論 (Inner Canon of the Yellow Emperor Basic Questions, Wind Treatise) states (有榮氣熱腑，其氣不清故使其鼻柱壞而色敗，皮膚瘍潰) it is flourishing *qi* heating the organs, the *qi* [evil *qi*] is unclear and therefore causes the bridge of the nose to rot and the complexion and the skin to have wounds and be rotten. This description resonates with what we might call leprosy.

8 Furth, Zeitlin, Hsiung, 2007, pp.6–8. See also Johnson, 1995, p.217, who calls the Tang Code (653) the most important legal work in East Asia, and compares the Han and Tang legal codes. Also, Zhang, 2014, p.165. He notes the confluence of law and medicine in the codes in the sixth of the Ten Abominations (十惡 *shie)* of the code, punishable with death, 'not to follow the correct prescriptions when preparing imperial medicine or to make a mistake in writing or attacking the label.'

arguments formed and norms either upheld or contested. Theoretical arguments that call into question established treatments and practices often herald innovation. As we will see in the second part of this case history chapter, the discourse around *shanghan* illness with its roots in the classical texts and the increasing development of the new *wenbing* theory of illness causation and treatment led to sweeping and long lasting changes in medical argument. Case histories themselves, by virtue of the types of diagnoses and drug prescriptions recorded, argue for particular theories and styles of practice favoured by their authors. In looking at early case records, we will see that the inspection of the tongue was not common practice. It is not until the Song dynasty that we see the first text that focuses on the information to be gleaned from inspecting the tongue and an explanation of its usefulness to a physician. I will argue that the eventual rise of tongue inspection as a diagnostic technique both grew out of the *shanghan* tradition and accompanied a new *wenbing* approach to diagnosis. While we see no significant tongue observation in the Han dynasty's *Shanghan lun*, the febrile illnesses being considered in that text gave rise to the tongue illustrations of the Yuan dynasty's *Jinjing lu*. Accompanying the increase in case records from the Ming to the Qing is an increase in the noted observations of tongue appearance. This innovative change in practitioner behaviour that gains popularity over time can be seen in the case histories of individual physicians and in the encyclopaedic compilations of cases

Case Records and Clinical Norms

There have been a small number of studies of China's recorded medical consultations that afford a fascinating peek at the actual practices of healers, as opposed to the more instructive admonishments found in theoretical texts. This genre, in varying structures and complexities has been documented since the Han. Inasmuch as it can be believed a 'true' record of practice, it reflects many variables, not the least of which is the style and focus of individual physicians. The compilation of a large volume of a particular physician's cases allows us to see not only the interventions of a healer in the plight of a sufferer, or at least those that the healer considered successful and exemplary (rarely do they record the blunders and failures of medical practice), but the fluctuations and constancies that announce the clinical norms of a particular time.[9] In examining the records of several prominent physicians from the Han to the Qing, the focus of the physician's gaze becomes apparent. Conspicuous by its absence in early case histories is reference to the tongue. In the course of this chapter I will argue that the story of the tongue's increasing inclusion as a diagnostic indicator in these records has been overlooked – and that case records of Ming and Qing hold a key as to why the art of the tongue became so important.

9 Sivin, 1967, pp.267–73; Grant, 2003; Cullen, 1993 and 2001; and Unschuld, 1985, among others.

The Early Recording of Medical Cases

The roots of the medical case record arguably began with the minimal information inscribed on the oracle bones of the Shang dynasty.[10] We can glean the basics of a case,[11] which seems to be intended to be true-to-life, namely the date, the practitioner, who is treated, their complaint, and the cause such as in the following divination.

> Day *renxu*. Crackmaking.[12] Diviner: *Huan*. [The king] has a sick tooth.
> It is [a case of] *chi* [=attack by demonic agency].[13]

The Shang inscription was usually made by a diviner on behalf of a Shang King and its purpose was to determine the cause of the illness. Often the illness was seen to be the result of an angered ancestor, but in this case a demon was established as the offending entity.

Later anecdotal accounts of interaction between patients and physicians such as those found in the *Zhouli* 周禮 ['Rites of Zhou'], the *Lü shi chunqiu lu* 氏春秋[Spring and autumn annals of Mr. Lü] and the *Zuo zhuan* 左轉 (Zuo Commentaries) suggest record keeping on the part of physicians. As illustration of this interaction from the latter text, we have the story of Physician He's encounter with Duke Huan of Qi (died 643 BCE). The Duke was suffering from a complexity of complaints, not helped by his indulgences in alcohol and sex. Among them was *gu* 蠱 poisoning, a bizarre type of illness associated with the body's invasion by putrefied bugs often associated with witchcraft. The infestation led to mad and licentious behaviour and a variety of healers were summoned to offer a diagnosis. The physicians and diviners vied with one another to make sense of his illnesses, citing spirits, and ancestors among the causes. Physician He also blamed a stellar spirit, the Duke's immoderate behaviour with women and drink, but at the same time, located the Duke's problems within an emerging discourse of *yin*, *yang* and *qi*.

> There are six heavenly influences (*qi*), which descend and produce the five tastes, go forth in the five colours, and are verified in the five notes; but when they are in excess, they produce the six diseases. Those six influences are denominated the *yin,* the *yang*, wind, rain, obscurity, and brightness. In their separation, they form the four seasons; in their order, they form the five (elementary) terms. When any of them is in excess, they ensure calamity. An excess of the *yin* leads to diseases of cold; of the *yang*, to diseases of the extremities; of rain,

---

10 Keightley, 2014, and Keightley, 1987, pp.36–40.

11 While I agree with Christopher Cullen's statement that this is really not enough to call a case history, the oracle bone information does set out the basics, which are constants in subsequent structures of case histories.

12 Throughout this dissertation, issues of cold and heat, *shanghan* and *wenbing*, water and fire weave through the discussion of case records. Sarah Allan (1997, p.153, fn.14) makes the fascinating connection between ancient dualities and the practice of crackmaking through the application of heat to the plastrons of water turtles. She quotes the *Guanzi* (XIV *Shui Di,* 39, pp.4–5) which states 'Turtles are born in water and one burns them with fire. For this reason, they act as a predicator of the myriad living things and as a determiner of bad and good fortune.'

13 Cullen, in Hsu, (ed.), 2010, p.302.

> to diseases of the belly; of obscurity, to diseases of delusion; of brightness to diseases of the mind.[14]

Alone among the gathered physicians and diviners, physician He drew together the heavenly, moral and physical aspects in an emerging cosmos made coherent by the unifying power of *qi.* He, in this passage, described a linking of bodily health with the meteorological environment and the cycle of the seasons. Duke Huan's indulgent and excessive behaviour disordered his *qi*, brought discord to the interactions between Heaven and Earth, and disrupted the balance within his body. In this example we have a more complex description of the cause of illness than a solely a magical or demonic intervention. The conceptual framework within which He was working is comprised of *qi, yin, yang* and the five phases – rubrics that come to describe an all-encompassing vision of the workings of the universe and the body's place within it.

The First Case Record Collection

But the first actual compilation of patient notes by a practicing physician is set before us by the Grand Historian and astrologer, Sima Qian 司馬遷 (*c.*145–86 BCE) of the Western Han (206–9 BCE) who composed the first Chinese dynastic history. These patient notes were compiled by Chunyu yi 淳于意, also known as the Master of the Granary (*Canggong* 倉公), born in 215 BCE, Qi Kingdom, Han Empire, Eastern China, present day Shandong province. His biography, 25 medical case records and answers to eight questions are recorded in the second part of the 105th chapter of the *Shi ji*史記 ['Records of the historian' *c.*90 BCE].[15] They follow on from the biography of Bian Que 扁鵲 (Qin Yueren 秦越人), the legendary itinerant physician depicted as a bird-man, which contains 3 medical cases and six principles of medical ethics.[16] Chunyu Yi's cases reflect nicely the shared roots of legal and medical record keeping noted above. Indeed, it is the need for investigation into the accusation against Yi that prompted these records of this physician's investigations into his patients' illnesses.

The imperially summoned and accused physician, Yi, presented these case records in defence of himself and his medical practice. In 176 BCE he was accused of a crime by a patient he refused to treat that was punishable with mutilation.[17] He was taken to Chang'an,

---

14 Zuo Zhuan: Zhao gong 1: 1951, 35. See also Graham, 1989, pp.1301–1302.

15 *Shiji* 105. The record of Chunyu Yi's travails is a fascinating account. Among scholars who comment on this entry in the *Shiji* are Loewe, 1997, pp, 300–308; Nienhauser, 2010 and van Ess, 2004, who disagree on the amount of creative editing or faithful reporting on the part of the authors; Brown, 2015, p.459 fn.41, points out that many scholars believe that Sima Qian invented the notion of authorship.Hsu declares it likely that there would have been input from multiple sources, and that Sima Qian emerges as what she describes as and 'author-editor'.

16 Brown, 2015, pp.41–62 provides a discussion of Bian Que and the politics and medicine of his time.

17 Nathan Sivin has written about the case brought against Yi, telling us Sima Qian states 'in some cases he [Yi] did not treat people's medical disorders, which aroused resentment in many sick peo-

imprisoned, and spared punishment through the intervention of his youngest daughter, Ti Ying 緹縈, pleading on his behalf to the Emperor. His case records were created during his imprisonment.

Yi is a fascinating figure, a scholar and a physician, who travelled widely in the north-east of the Han empire, roaming from court to court, as did many other itinerant scholar experts of the time, in search of patronage. He was the Master of the Granary, who gave up this official post and undertook the study of medicine. We know that he studied with a physician named Yang Qing 陽慶 in 180 BCE, and that he received secret formulae from an elderly physician named Gongsun Guang 公孫光, who exhorted Yi not to transmit these to anyone else.[18] The *Shi ji* records a list of texts Chunyu Yi is said to have received from his teachers, and though no longer extant, their titles are indicative of what was deemed to be important. There is 'The Pulse Book' (*Mai shu* 脈書), 'The Upper and Lower Canon' (*Shang xia jing* 上下經),[19] 'Diagnosis by means of the Five Colours' (*Wu se zhen* 五色診),[20] 'The Art of the Irregular and Regular' (*Qi ke shu* 奇咳術)[21] 'Gauging and Measuring the External Anomalies of Yin and Yang' (*kui du yin yang wai bian* 揆度陰陽外變),[22] 'The Discourse on Drugs' (*Yao lun* 藥論), 'The Deities of the Stone' (*Shi shen* 石神),[23] and 'The Secret Book on Joining Yin and Yang' (*Jie yin yang jin shu* 接陰陽禁書).[24] From this list,[25] we see the Han medical arts included the study of the Pulse, diagnosis according to colour, the concepts of *yin* and *yang*, drug therapy, and needling. We also know that Yi practiced massage. Section four of the Memoir[26] is comprised of eight questions, and in answering the seventh, he declares, 'Your servant, Yi, taught him techniques for delivering massage…'.

---

ple', in Bates, (ed.), 1995, p.177. See also Brown, 2015, pp.63–80.

18 This would not have been an unusual request from a master to a disciple. During the Han, before the availability of paper, when texts were inscribed on silk, wood or bamboo, scholar physicians carefully guarded their texts. They were the keepers of written records that were precious on many levels. Their physical rarity accompanied the rarity of the information they held and the rarity of skilled implementation of their lore.

19 Elisabeth Hsu notes that the *Mai shu* is not attested in the *Neijing* but the *Shang xia jing* is (2010, p.65).

20 Hsu, 2010, p.65, fn.49.

21 Hsu, 2010, p.65 fn.50 cites Wang Shumin 王叔民 (1983, 2902-3) on the on the possibility that the character *ke* 咳, meaning cough, can be substituted for others meaning 'extraordinary, irregular'.

22 Hsu, 2010, notes that 'gauging and measuring' is about palpating the vessels and measuring them out. p.65, fn.51.

23 Hsu, 2010, p.65, fn.53. This is understood to be the *Bianshi zhishen fa* 砭石之神法. See also Nienhauser, 2010, p.31, fn.23.

24 This is a book concerned with the arts of the bedchamber and provides a fascinating insight into the range of skills which were deemed necessary and respectable for the average physician.

25 Here we have a reflection of a Han edict directing physicians with prognosticatory skills to list their teachers, texts they learned from and those they transmitted to others, and the location of their prominent patients. Nathan Sivin points out that Chunyu Yi's account sets out the earliest record of the qualifications of a physician who was not a medical official. Sivin, 2002, p.77.

26 In using the term 'Memoir' I follow Elisabeth Hsu's title for the Chunyu Yi's biography, case records and responses to questions recorded in the *Shiji.*

Consequently, in this first collection of case histories we would expect to see Chunyu yi demonstrate his skill as a diagnostician through his use of both complexion and pulse diagnosis, and we are not disappointed in this expectation. But within the context of the clearly discerning gaze brought to bear in his consultations, in the actual case histories recorded in the third section of the Memoir it is particularly notable that at no point did he make any reference to the appearance of a patient's tongue.

Chunyu Yi 's medical knowledge and diagnostic practices resonated with that received in the Han texts such as the *Huangdi neijing*.[27, 28] In his records he makes use of the *mai* 脈 (vessels and/or movements in the vessels, or pulses), the concept of *qi* 氣,[29] of *yin* and *yang* and the five viscera (*wu zang* 五藏) as he recounts his consultations. We know that he knew massage techniques, since as noted above he says he taught them to others. In the cases recorded in the Memoir, we see his use of drug therapy, acupuncture and moxabustion. Indeed, in line 28 of case 6, he mentions all three modalities.

> In cases where the body form has been fading away, it is not fitting to apply cauterization (moxabustion) and needle therapy, and to make [the patient] drink potent drugs.[30]

He did not call his accounts case records, but rather consultation records (*zhenji* 診籍). In his response to questioning, Yi stated that 'In every case where your vassal has conducted a medical consultation, he has always made a consultation record'.[31] With this Memoir and its twenty-five cases, Chunyu Yi gives us the first social history of medical practice. We learn about his education as he tells us about his teachers, his methods of learning, the skills he applies in practice and the books he owns. We see his own assessment of his professional competence and the objective fact that his prognostications are correct. Even in cases in which the patient is beyond help, he knows when this is so, and his therapeutic successes are noted. In answer to questioning by the Emperor, he replies

> The reason I am able to differentiate disorders is because of what I accomplished with my teacher. Since my teacher died, I have set out 'consultation records' of disorders that I have diagnosed to predict the time [allotted] for life or death.[32] I observe where my predictions

---

27 The *Huangdi neijing* was comprised of the *Suwen* 素問 (Basic Questions) and *Lingshu* 靈樞 (Divine Pivot), composed at some time after the 3rd century BCE and extant in Song dynasty (960–1279) text.

28 Both Nathan Sivin and David Keegan, note that by the end of the 1st century BCE there were texts associated with particular medical lineages, one of which was that of *Huangdi.* They also point out that Chunyu Yi's account of his learning suggests that boundaries between lineages were breaking down in the Han, as he cites the received texts of more than one lineage. Sivin, 2002, pp.55–9 and Keegan, 198, pp.230–231.

29 The concept of *qi* 氣 is variously translated, the most frequent suggestions being breaths, vapors, air and vital energy. As I consider these usual translations of *qi* to be suggestive rather than definitive and the word itself to be increasingly used in common parlance, I choose not to translate it in this dissertation. As noted above, *qi* is also seen as a unifying force and organizing principle in the universe.

30 Hsu, 2010, p.233.

31 Cullen, in Hsu, (ed.), 2001, Innovations, p.305. *Shiju, juan* 105, 2813.

32 There has been much scholarly discussion regarding the use of prognosticatory skills and divination in Han medical practice. In terms of Chunyu Yi's case records and their demonstration of his skills

> are accurate or amiss, and find the results in agreement with the pulse method. This is how I gain knowledge.[33]

Of particular relevance to the argument of this dissertation is that the cases demonstrate this physician's diagnostic tools. Yi reveals an excellent command of pulse reading, upon which most of his diagnoses depended. This is illustrated in Case 4:

> …when I pressed onto his *mai*, there was a paired *yin.* The 'Mai fa' says: 'In the case of a heat disorder, those. Whose *yin* and *yang* intermingle, die.'
> When I pressed on them [the *mai*], there was no intermingling, but a paired *yin.* In cases of the paired *yin*, the *mai* are smooth and clear, and [the patient] recovers.
> …*Qi* [coming] from the kidneys was sometimes for a moment murky, at the opening of the major *yin mai*, however, it was thin. This is a case of water *qi*.[34]

We can see here that Chunyu yi presses the *mai*, discerns a quality (a paired *yin*), and references this felt quality with what he has learned from his text the '*Mai fa'*.[35] He ascertains that the deathly quality described in the text – that of intermingled *yin* and *yang* – is not present in his patient. Having settled this issue of prognostication, he then notes that the *qi* of the kidneys was momentarily problematic at the opening of the major *yin mai.* Considering this, he then notes another quality of the *mai* – its thinness. This is a sophisticated series of judgements in which Chunyu Yi presses the *mai*, considers, compares his tactile information with his scholarly learning, makes assessments, notes a secondary quality and finalizes his decision. It is a clear demonstration of excellent diagnostic process.

Along with Yi's illustration in the above case of cold transforming into heat, we see a careful reading of the *mai*, which we can reasonably assume is his feeling of the pulse. Hsu notes one of the reasons for this assumption in her study of this case.

> …Yi does mention two further pulse qualities, namely *qi* 'being murky' (*zhuo* [濁]) and 'yet being thin' (*er xi* [而希]) lines 32–3. We instantly recognize Yi's peculiar vocabulary in the 'murky', which he idiosyncratically uses for assessing pulse qualities in cases 1, 2, 4 and 9.[36]

It is apparent that the use of *mai* (脈 pulse/vessel) in diagnosis is customary in Chunyu Yi's medical practice, and there are various Han texts that document this method. The *Huangdi Neijing, the Nanjing* and the *Shanghan lun* all refer to the pulse. Its qualities and their significance are described with great detail in chapter 17 of the *Huangdi Neijing*. Kenneth de Woskin notes that Sima Qian '…mainly concluded that the understanding of pulse in his own day was originally derived from Pien Ch'üeh's [Bian Que's] 扁鵲 technique'.[37]

---

of prognostication, see Raphals, 2011, pp.286–287.

33 Furth, 2007, p.127.

34 Hsu, 2010, p.186.

35 The *Maifa* 脈法 (Model of the Vessels) is among the texts excavated from the Mawangdui tomb. For translation and discussion of the *mafia*, see Harper, 1998, pp.213–218.

36 Hsu, 2010, p.194.

37 DeWoskin, Kenneth, 1983, p.20.

Chunyu Yi was not only discerning in his pulse diagnosis. He also looked with perspicacity at his patients' *se* 色 (colour). For example, in case 15 we read:

> When I looked at him, it was mortally yellow. When I inspected him, it was the deathly green of a straw mat. (望之殺然黃察之如死青之茲).[38]

As Elisabeth Hsu declares, in this passage there is little doubt that Yi is speaking of the complexion.

In addition to the pulse lore, there is textual support for the importance of complexion diagnosis during the Han. Chapter 105 of the *Shiji* 史記 (Record of the Historian) by Sima Qian 司馬遷 mentions the *Huangdi Bian Que zhi maishu wuse zhenbing* 黃帝扁鵲之脈書無色診病 (Diagnosis of Illness Using the Examination of the Complexion According to the 'Book of the Pulses by Bian Que and the Yellow Emperor).[39] There is also the above noted text, *Diagnosis by Use of the Five Colours,* reputed to have been used by Chunyu Yi. But in the collection of Han texts, extant or merely recorded, there is no diagnostic rubric for the inspection of the tongue. In the case that follows as well as in others, notable by its absence is the mention of any significance to be gained from the inspection of the tongue.

Chunyu Yi's Case Number Four

Below is case number four[40] from the collection in the Memoirs. I have chosen to present this case as it has several notable features. As I point out in my chapter outline, one of the significant areas of research for this dissertation involves the theoretical debate between the *shanghan* and the *wenbing* schools of thought. As I suggest at several junctures in this dissertation, 'it's all about heat'. And yet – to some extent, it is also, sometimes, all about cold, and specifically, the transformation of cold into heat. The concept that is so important in the *shanghan* corpus is that damage by cold in the winter can persist in the interior of the body long after the cold symptoms have disappeared. This damage can then emerge from its lurking state later in the spring or beyond. This new manifestation of heat long after the initial damage by cold was used to explain the process of serious febrile heat in a warm season. It is the use of this reasoning as a general explanation for heat illnesses that do not manifest shortly after damage by cold with which later physicians took issue as they expanded the possibilities of disease causation. The development of *wenbing*, or warmth factor illness theory will be discussed at length later in my argument.

Case 4

Xin, the Chief of the Palace Wardrobe of Qi, fell ill.

---

38 Hsu, 2010, p.33.
39 Despeux, in Lo and Cullen, 2005, pp.177 and 180.
40 The English translation for this case is taken from Hsu, 2010, pp.185–186.

I entered [the palace] to examine his *mai* and formally announced saying:

It is the *qi* of a heat disorder.

So, you sweat [as one does] from summer heat.

The *mai* are barely weakened.

You will not die.'

I said: 'This illness is contracted when one formerly bathed in running water, while it was very cold, and once it was over got hot.'

Xin said: 'Yes, so it is.

Last winter season, I was sent as the King's envoy to Chu.

When I got to the Yangzhou River in Ju County, the planks of the bridge were partly damaged.

I then seized the shaft of the carriage.

I did not intend to cross.

The horses became frightened and [I] promptly fell.

I was immersed in water, and almost died.

Some officers then came to save me and pulled me out of the water.

My clothes were completely soaked.

For a short time my body was cold.

And once it was over, it got hot like a fire.

Up to today, I cannot be exposed to the cold.'

Your servant, Yi, thereupon made for him a decoction [prepared by careful] regulation of fire, to drive away the heat.

After drinking the first dose, the sweating came to an end.

After drinking the second, the heat left.

After drinking the third, the illness ceased.

I then made him apply medicines.

After about 20 days his body was without illness.

The means whereby I recognized Xin's illness were that at the time when I pressed on to his *mai*, there was a paired *yin*.

The 'Mai fa' says:

'In the case of a heat disorder, those whose *yin* and *yang* intermingle, die.'

When I pressed on them [the *mai*] there was no intermingling, but a paired *yin*.

In cases of the paired *yin* the *mai* are smooth and clear, and [the patient] recovers.

Although his heat had not yet gone completely, he was still going to live. *Qi* [coming] from the kidneys was sometimes for a moment murky,

at the opening of the major *Yin mai*, however, it was thin.

This is a case of water *qi*.

The Kidneys certainly govern Water.

Hence by means of this I recognized it [the disorder].

If one neglects treating [such disorders] instantly, then they turn in to chills and hot flushes.[41]

41 Hsu, 2010, p.185–186.

This case offers a clear description of an illness progressing from an original exposure to cold that chills the body to a later, follow-up manifestation of bodily heat. As Xin himself describes his illness, his body was cold initially, and later, it was 'hot like a fire'.

This depiction resonates nicely with the descriptions of *Shanghan* as it was later coined in the classical works of Chinese medicine. It is useful here to note some of the passages in the *huangdi neijing suwen* that define the Han conception of cold transforming into heat in a body. As I mention above, this concept is pivotal in later innovative theories of disease causation which impacted the rise of tongue inspection and its use in diagnosis.

Patient Xin's report that:

> for a short time my body was cold. And once it was over, it got hot like a fire. (有閒而身寒已熱如火)

hints at the discussion to come centuries later. In translating this passage, it is possible to assume that very little time passes between Xin's body being cold and his developing a fever. However, it is also possible to read 已 (*yi*) simply as 'later' or 'afterwards', which suggests a less definite time frame. This distinction, as well as the identifiable fact that the patient had been exposed to cold, will become critical for the argument in part II of this chapter. As physicians in the Ming and Qing debate causes and treatment modalities for febrile disease, issues of cold, heat and their relationship to disease progression generate both innovation and a discourse that revolves around classical doctrine. The *suwen* offers several statements about damage due to cold, some of which I list here, along with commentaries made by later compilers. As we will see, these statements later become pivotal to the discourse around the establishment of *wenbing* as a diagnostic theory that distinguished itself from that of *shanghan*.

Chapter 31 of the *suwen* declares,

> Now, as for heat diseases, they all are of the type 'harm caused by cold.'[42]

Yang Shangshan 楊上善[43] comments:

> Extreme cold turns into heat. When the three *yin* or the three *yang* vessels, the five depots or the six palaces receive heat and develop a disease, this is called 'heat disease'. The 'heat disease' [discussed] here, though has its origin in the reception of cold, in massive harm [caused by cold]. Because one was harmed by cold, one got this heat disease. It is named

---

42 The English translations I have used for the *suwen* passages in this dissertation are from Unschuld and Tessenow, 2011. The Chinese text I consulted is the *Huangdi neijing suwen*, *Renmin weisheng chubanshe*, 黃帝內經素問, 人民衛生出版社, Beijing, 1963; 5th printing, 1983. The references to the Chinese text are given in three figures, denoting chapter, page and line of the 1983 above-mentioned text. Consequently, I will note *suwen* passages for which the translation is taken from Unschuld et. al. with reference to both texts, as for this quote. Unschuld *et al*, 2011, p.491, *suwen* 1983, 31-183-2.

43 Yang Shangshan 杨上善 (7th century), a Tang dynasty physician, is the compiler of the extant version of the *Huangdi neijing taisu* 黃帝內徑太素. For a discussion of his approximate dates, generally considered to be 7th century, see Sivin, 1998, p.34, and Unschuld, 1985, p.70.

['harm caused by cold'] because of its origin. Hence these heat diseases are said to belong to the group of 'harm caused by cold.'[44]

This section of the *suwen* goes on to point out that the dates of the initial cold damage are also noteworthy. Damage occurring before the summer solstice is categorized as a warmth disease, while afterwards it is categorized as summerheat.[45] Again, these distinctions become significant in later assignments of symptoms to disease categories. Chunyu Yi does not, however, provide us with the date of patient Xin's illness.

In chapter 3 of the *suwen* we read:

If one was harmed in winter by cold, in spring he will develop a warmth disease.[46]

Wang Bing's 王冰[47] comment on this statement makes use of the concepts of *yang* and *qi* to explain.

The winter cold causes freezing; the *yang qi* in spring effuses. When the cold fails to open [the surface], the *yang* boils inside. Cold [*qi*] and boiling [*yang qi*] hold each other. Hence, a warmth disease emerges.[48]

In *suwen* chapter 5 the statement is repeated:

If [a person] is harmed in winter by cold, he will [suffer from] warmth disease in spring.[49]

And again, there is a comment by Wang Bing:

Any harm caused by a *qi* associated with one of the four seasons may lead to disease. To be harmed by the poison of cold, though, this is the most fatal and violent *qi*. The moment one is struck [by cold], a disease sets in. Hence, one speaks of 'harm caused by cold'. In those cases where [someone struck by cold] does not fall ill immediately, the cold poison is stored in the muscles and in the skin. In spring it changes to a warmth disease; in summer it changes to a summerheat disease. Hence, those who are concerned with nourishing their life, they must beware of harm by evil [*qi*]. [50]

Case four does not tell us in which season physician Yi is treating patient Xin, but Xin himself tells us that 'last winter season' was the time of his fall into the river.

Yi's description of chills and cold transforming into heat and sweating in the body is in accord with the diagnostic explanations in the *suwen.* It is also recognisable in the progressions of illness nuanced by Zhang Zhongjing in the *Shanghan lun*. However, in contrast to the Ming and Qing case records dealing with febrile bodies that we will see later in this chapter, there is a complete absence of any reference to the tongue's appearance.

---

44 Unschuld *et al.*, 2011, p.491, fn.2.
45 *Suwen*, 1983, 31-186-2.
46 Unschuld *et al.*, 2011, p.79; *Suwen,* 1983, 3-21-5.
47 Wang, a daoist, is the author of the 762 CE revision of the *Suwen*. See Unschuld, 2003, pp.39–58. The Imperial Editorial Office (established 1053 CE) created the version considered authoritative today, using Wang's reorganization of various texts into 24 *juan* and 81 treatises. Unschuld, 1985, pp.160, 180.
48 Unschuld *et al.*, 2011, p.79, fn.80.
49 *Ibid.,* p.104; 5-34-6.
50 Unschuld *et al.*, p.104, fn.52.

Section II

Record Keeping Post-Han to Tang

As we saw in the Introduction, following the Han dynasty the only periods of unification were brief, and occurred during the Jin (285–316) and Sui (581–618) dynasties. The Tang dynasty (681–906) brought an extended period of unity that saw the size of the empire cover the greatest area prior to the Qing, and produce poetry that continues to be considered exceptional. It is commonly referred to as China's golden age of culture.[51]

The transformation that we will see later in Song and Ming medicine, in which practice became a profession that the scholar elite took up in increasing numbers, had not yet occurred. This is highlighted by Xie Guan 謝觀 in his *Origins and Development of Medicine in* China (*Zhongguo yixue yuanliu lun* 中國醫學源流論).

> 中國醫術,當以唐宋為一大界。自唐以前,醫者多守專門授受之學,其人皆今草澤 鈴醫之流,其有士大夫而好研方書 ... 代不數人耳。自宋以後,醫乃一變為士大夫 之業,非儒醫不足見重於世。
>
> In Chinese medical arts, the Tang and Song should be taken as an important boundary. Up through the Tang, most doctors clung to specialized learning transmitted [from master to disciple]. The literati among them who loved the study of formularies ... numbered only a few. From the Song onward, medicine suddenly became a job for the literati. If a doctor was not a scholar physician, he was not worthy of recognition in the world.[52]

Physicians may certainly have kept medical records of their own cases, but these did not yet form a genre for publication. Possibly, cases did not hold the same interest for elite discussion as did medicinals, for as Xie pointed out above, Tang literati engaged in the study of formularies. Sun Simiao's *Beiji qianjin yaofang* 備急千金要方 (Important Formulas Worth a Thousand Gold Pieces) and *Waitai miyao* 外台秘要 (Arcane Essentials from the Imperial Library) by Wang Tao 王燾 are two of the most famous. Neither offers anything of importance in terms of the development of tongue lore.

While Sun was not a keeper of case records as such, he certainly left us a record of a repertoire of medical knowledge and practice that was extremely catholic in scope. He turned his attention to herbal recipes, acupuncture, moxabustion, massage, *yangsheng* 養生 (nurturing life) practices, nutritional interdictions,[53] magico-religious interdictions,[54] and incan-

51 Lewis, 2009; Brook, 1998; and Benn, 2002 provide three of many informative overviews of Tang China.
52 Xie Guan, in Boyanton, 2015, pp.62–63.
53 See Englehardt, in Hsu 2010, p.181–184
54 For example, Sivin, 2015, p.121 presents an account of an interdiction procedure in Sun's *Qianjin yifang* 千金翼方 to ward off post-partum dizziness.

tations.[55] He may well have been privy to the knowledge accumulated in medical writings Vivienne Lo describes as:

> … a growing body of handwritten literature that testifies to the macro-culture of divination and numerological techniques that shaped scholarly medical traditions. Magic, ritual incantation, sexual cultivation, meditation and prescriptions made up of every conceivable herb, animal and household substance also commonly constituted large areas of elite medical practice.[56]

Sun Simiao's writings straddled and arguably blended the worlds of erudite learning, folk practices and magico-religious ritual. What he did not leave us was any compilation of individual cases, nor indeed, any information on tongue lore.

Record Keeping in the Song (960–1278)

While not extant, written medical record keeping is implied in the bureaucratic demands of both the Song and Ming (1368–1644) governments. The first demanded *yinzhi* 印紙 (stamped papers, or official records) of cases treated to be presented by students for grading[57], and the second sets out a hierarchy of rewards to physicians according to numbers of successful treatment outcomes.[58] The Song advances in printing transformed the medical scene. Canonical texts and government formularies were increasingly available in accessible and affordable formats. The resulting wider distribution of medical texts – though by no means yet on the scale that would later be seen in the Ming dynasty – brought physicians out of the relative isolation in which they had practiced. Medical treatises and formularies were no longer confined primarily to the domain of apprenticeship models and solitary or family based practicing physicians, and they became sought after and more widely available. The ensemble of literate scholars interested in medicine grew beyond practicing physicians, to include government officials, literate gentry and students.

The Imperial Pharmacy and the publication of its formulary may have also enhanced the possibility of practicing medicine without official training. It is probably not a stretch to assume that people who could read the Pharmacy's formulary and had access to the Pharmacy's stores could 'put up a shingle' and claim to be a physician.[59]

Due to the waves of epidemics sweeping the empire[60] the Song government was acutely in need of finding effective modes of treatment, and to this end was keen for physicians to

---

55 The interdictions and incantations are found in the *Jinjing* 禁經 (Canon of Interdictions), which was part of a Daoist exorcism handbook that was inserted into Sun's *Qianjin yifang.* Sivin, 2015, p.121.
56 Lo and Cullen, 2005, p.208.
57 Cullen, in Hsu, (ed.), 2001, p.304.
58 Goldschmidt, 2009, p.50.
59 Ibid., p.177.
60 Various scholars have written about the impact of the Song epidemics, among them Hinrichs, 2003; Goldschmidt, 2009, and Hanson, 2013.

have more than marginal medical training and meagre skills. As we have seen in Chapter 2, the Song era boosted the transformation of the lowly occupation of *yigong* 醫工 (medical worker) into a profession worthy of scholar-officials' sons. Part of this process involved the Song medical schools and their examination procedures which required excellent literacy and a demonstrated knowledge of the medical classics.[61]

Xu Shuwei and *Shanghan* Cases

One of the Song publications that presaged the establishment of the case history genre was Xu Shuwei's 許叔微 (1079–1184) *Shanghan jiushi lun* 傷寒九十論 (Ninety Discourses on Cold damage). Scholars disagree as to whether this is a lineage text or case records intended for public consumption,[62] though whatever its intended audience, the earliest record of its existence is from a Qing dynasty publication.[63] What is certain is that it is a compilation of clinical cases with added discussion that appears to be aimed at knowledgeable individuals, most likely physicians, centring on the appropriate use of the drug recipes found in the *Shanghan lun*. An example of Xu's record keeping follows.

> Cao Sheng initially suffered from cold damage. After six or seven days, his abdomen was full and he was vomiting. He couldn't get food down. He had a fever, and his hands and feet were hot. His abdomen ached, and he was nauseated. The physicians called it excessive *yang*. [His family] still had misgivings about his hands and feet being hot, fearing that heat had amassed in the stomach causing vomiting and nausea, or, seeing the vomiting and diarrhoea, took it to be sudden turmoil [disease]. [They] asked me to diagnose [him]. His pulse was fine and sunken. I evaluated him saying, 'This is a greater *yin* pattern. In greater *yin* disease, there is abdominal fullness and vomiting, inability to get food down, severe spontaneous diarrhoea, and occasional spontaneous pain of the abdomen.' I used Regulate the Centre Pill (*Tiaozhong wan* 調中丸) to stop [the illness]. I used five or six pills the size of an egg yolk per day. Then I used Five Accumulation Powder (*Wuji san* 五积散). After several days [Cao] recovered.
>
> Discussion: I see common physicians diagnosing cold damage and only labelling them *yin* patterns and *yang* patterns. Zhongjing has three *yin* and three *yang* [diseases]. Even in one pattern, there are also leanings toward exuberance or insufficiency. What is necessary is to clearly differentiate in which channel [the illness is present]. The formula must correspond to the signs, and there are standards for the use of medicinals. Moreover, in the case of greater *yin*, lesser *yin*, and reverting *yin*, they have [situations which demand] either supplementing or draining. How can [they] stop at naming [the disease] a *yin* pattern![64]

---

61 Writings on the transformations in Song society, of which medicine is a large part, are numerous. See for instance Bol 1992; Chaffee 1995; Hymes 1997; Lee 1985; Leung (in Smith and von Glahn 2003) and Needham 2000, among others.

62 Furth, in Furth, Zeitlin and Hsiung, 2007, argues the former, while Boyanton, PhD diss. 2015 and Goldschmidt, 2015 argue the latter.

63 In *Congshu jizheng xinbian, 45:617; Zhongguo yiji tongkao,* 1:279–280. 1986.

64 Translation from *Xu Shuwei's Shanghan Lun Zhu Sanzhong,* by Boyanton, 2015, pp.158–9. The three *yang* and three *yin* are here referring to Zhang's six channel framework, made up of the three *yang* categories (*taiyang* 太陽, *yangming* 陽明, *shaoyang* 少陽), and three *yin* categories (*taiyin* 太陰, *shaoyin* 少陰, *jueyin* 厥陰).

Xu provides us with the patient's name (though not his age) his symptoms and some sense of the duration of the illness. There are several other nuggets of information here. Reading that Xu is requested to give his diagnosis after other physicians had already done so reflects patient (and family) anxiety in a world of diverse medical practitioners, frequent epidemics[65] and often ineffective remedies. What is fascinating is that not only did his family have 'misgivings' about the diagnoses of the other physicians, but they had them around issues of diagnostic significance. In other words, they were medically learned enough to know that symptoms of heat (hot hands and feet) had significance in the functioning of the digestive processes of the body (vomiting and diarrhoea), that this should probably indicate a short illness, and in the absence of improvement after a week, called in Xu to give an additional opinion. Another arresting facet of the case record is the discussion following, in which Xu delivers a tirade concerning the diagnostic incompetence of the other medical personages attending. This case, like that of Chunyu yi discussed earlier, concerned cold damage, or *shanghan,* and a process of initial cold transforming to become a problem of heat. Also as in Chunyu yi's cases, we see that the physician took the pulse, and did not inspect or refer at all to the tongue.

We have seen that during the Song, the government established medical schools requiring literacy and familiarity with the classics. With the development of an elite medical world that was increasingly anxious to distance itself from more societally marginal healers,[66] it is not difficult to imagine the attraction that the ability to fashion an artistically crafted and well-reasoned case record would have had for a physician. Providing such evidence of erudition could be invaluable when treating a sufferer's well-placed family. The profession of medicine was transforming in the Song due to pressure from the bottom up, so to speak, as well as from the top down. Hymes argues that as the number of literate elite outpaced the available government positions that hitherto facilitated one's rise in society, pressure was exerted from below to create a medical niche that strove to upgrade itself; Boyanton argues that this societal pressure ran in tandem with the Song government's move to upgrade the proficiency of medical practitioners, as efficacy was seen to be poor in the face of epidemics.[67] The combination ensured an upward transformation in the status of scholar physicians, who in turn were eager to cement their relatively new position at the top of the medical

---

65 Goldschmidt, (2009, p.79), lists 14 epidemics recorded by the Song government from 1089 to 1137, during Xu Shuwei's lifetime.

66 These were essentially the non-scholarly and manual arts, such as acupuncture, moxabustion, ophthalmology, midwifery, and shamanic practices. See Smith and von Glahn, 2003, p.386–398, among others. See also Scheid, in EJOM (2011) for the Song medical reforms that instituted the Pharmacy Service, sought to displace shamanic healers, and loosen the links between health care and elite providers.

67 I refer to this societal pressure on the literati several times in this dissertation. I believe that its impact on the development of medical practice in China is difficult to overestimate. See also Goldschmidt, 2009, for a discussion of Song interventions in medical training.

hierarchy. The above case record example would have certainly enhanced physician Xu's standing in the eyes of patient Cao's family. While it would be another two centuries until the case record emerged as a discrete and established genre, the groundwork for the written, non-magical, theoretically reasoned documentation of a case had arguably been already laid in the Song.

Textual Debut of the Discrimination of Tongue Coatings

One of the major features of a case record is the diagnosis made by the physician as to the nature of the patient's illness. As I stated earlier, the inspection of the tongue as a diagnostic tool was an historical latecomer. Its absence was apparent in the cases recorded by Chunyu Yi, and writings from the Han onward waste very little ink on its appearance. This begins to change in the Song, as the text that heralds the beginnings of the tongue's diagnostic importance was written in 1144, entitled *Shanghan mingli lun* 傷寒明理論 (Discussion on Clarifying the Principles of Cold Damage). The author was Cheng Wuji 成無己 (1063–1156), a native of Shandong 山東 province, and author of several publications on *shanghan* diseases.[68] It is difficult to overestimate his contribution to the understanding of *shanghan* disease and treatment, or in fact, to the eventual importance of the tongue to diagnosis. The *Shanghan mingli lun*, provides a list of 50[69] important symptoms to be aware of, connecting each to the manifestation types set out in the *Shanghan lun*. It merged classical doctrine and shanghan theory to set out diagnostic and treatment procedures. But most importantly for this dissertation, the appearance of the tongue within disease progression featured explicitly and prominently. Zheng Jinsheng 鄭金生[70] asserts that this text offers the earliest description of the use of the tongue as a means of diagnosing and prescribing.[71] The significance of the various tongue coatings and colours will be reflected later in the case records that I will present in the next chapter. The section of this text dealing with the significance of the appearance of the tongue follows.

---

68 His *Zhujie shanghan lun* 注解傷寒論 (Commentary on the Cold Damage Treatise) is considered the earliest of its kind in Chinese medicine commentary. Xie Zhufan and Huang Xiaokai, 1998.

69 *She shang tai* 舌上胎 (Tongue coating) comes 22nd in a list in which nearly half of the preceding topics concern themselves with heat. These include *fare* 发熱 (fever), *hanre* 寒熱 (chills and fever), *chaore* 潮熱 (tidal fever), *zihan* 自汗(spontaneous perspiration), *daohan* 盜汗 ('thief sweat'/night sweat), *touhan* 頭汗 (head sweat), *fanre* 煩熱 (heat vexation), *xufan* 虛煩 (deficiency vexation), and *fanzao* 煩躁 (vexation/restlessness).

70 Zheng Jinsheng is a medical scholar and author, who was director of the Research Institute for the History of Medicine and Medical Literature of the China Academy of Traditional Chinese Medicine (*Zhongguo zhongyi yanjiuyuan Zhongguo yishi wenxian yanjiu suo* 中國中醫研究院中國醫史文獻研究所) from 1993–7. He has collaborated with Paul Unschuld on various books and articles, and has undertaken in-depth research on the *Bencao Gangmu* 本草綱目, a Ming compendium of materia medica.

71 I am extremely grateful to Dr. Ji Zhenghan 纪征瀚, a physician and scholar at the Academy of Chinese Medicine in Beijing for pointing me in the direction of the *Shanghan mingli lun* and Zheng Jinsheng's comments on tongue diagnosis.

傷寒明理論

舌上胎

傷寒舌上胎，何以明之， 舌者心之官， 法應南方火， 本紅而澤傷寒三四日已後， 舌上有膜， 白滑如胎， 甚者或燥或澀， 或黃或黑， 是數者， 熱氣淺深之謂也， 邪氣在表者， 舌上即無胎， 及邪氣傳裏， 津液結搏， 則舌上生胎也， 寒邪初傳， 未全成熱， 或在半表， 或在半裏， 或邪氣客於胸中者， 皆舌上胎白而滑也， 經曰， 舌上如胎者， 以丹田有熱， 胸中有寒， 邪初傳入裏者也， 陽明病脅下滿。 不大便而嘔， 舌上白胎者， 可與小柴胡湯， 是邪氣在半表半裏者也， 陽明病若下之， 則胃中空虛，客氣動膈，可氣動膈，心中懊，舌上胎者，梔子豉湯主之。是邪客於胸中者也。藏結宜若可下， 舌上胎滑者， 則云不可攻也， 是邪未全成熱， 猶帶表寒， 故也，及其邪傳為熱，，則舌之胎，不滑而澀也， 經曰，傷寒七八日不解， 熱結在裏， 表裏俱熱， 時時惡風大渴，舌大乾燥而煩， 欲飲水數升者， 白虎加人參湯主之， 是熱耗津液， 而滑者已乾也， 若熱聚於胃， 則舌為之黃， 是熱已深也， 金匱要略曰， 舌黃未下者下之， 黃自去， 若舌上色黑者， 又為熱之極也， 黃帝鍼經曰： 熱病口乾舌黑者死， 以心為君主之官， 開竅於舌， 黑為腎色， 見於心部，心者火， 腎者水， 邪熱已極， 鬼賊相刑， 故知必死， 觀其口舌， 亦可見其逆順矣。

Elucidating the Principles of Cold Damage

Tongue coatings

Shanghan tongue coatings, how do they clarify things? The tongue relates to the heart official; the law says that fire relates to the south. The root [of the tongue] is red and damp. After three or four days of cold damage, the tongue surface has a film. It is a white and slippery coating. Why is it sometimes dry, sometimes rough, sometimes yellow, sometimes black? [to know this] You must discriminate among [the qualities of] heat, *qi,* superficiality, depth, and you must be able to say how the evil *qi* is manifesting. The tongue surface, therefore, has a coating. [When] the evil *qi* reaches the interior, the fluids congeal, and therefore the tongue generates a coating. The cold evil is just beginning to take hold. It has not yet transformed into heat. It is half exterior and half interior. If the evil *qi* travels into the chest, the entire tongue coating will be white and slippery. The classic [the *Shanghan lun*] says: if the tongue surface has a coating, if the *dantian*[72] has heat and the chest has cold, the evil is beginning to move into the interior. *Yangming* illness is stirred up.It is not easy to have bowel movements or to vomit, and the tongue has a white coating. You can give minor bupleurum decoction. The evil *qi* is half in the exterior and half in the interior. *Yangming* illness should descend [be purged]. The stomach then is empty, the guest [or intruding] *qi* moves into the diaphragm and the chest is heavily vexed. The tongue will be coated. The use of gardenia and prepared soybean decoction is indicated. This is evil guest [*qi*] in the chest. The *zang* [internal organs] are bound up.It is appropriate to descend [purge]. But if the tongue coating is slippery, you cannot use purgation. The evil *qi* has not yet completely taken over, but it still carries the exterior cold. When the evil *qi* transforms into heat, the tongue's coating is not slippery but astringed [or rough]. The classic states: when cold damage is not released in seven or eight days, the heat congeals in the interior, and the exterior and interior both have heat. At this time, the pernicious wind creates a big thirst. The tongue is very dried out, and [the person] is irritable and wants to drink more and more. White tiger plus ginseng decoction is the most efficacious when heat diminishes the body fluids, and the slippery [tongue coating] dries. If the heat accumulates in the stomach then the tongue become yellow, because the heat has become profound. The *Jingui yaolue*[73] says:

---

72 Commonly translated as cinnabar field, it is considered a core energy centre of the body, located roughly between the umbilicus and the pubic bone

73 Zhang Zhongjing's original text was the *Shanghan zabing lun*, and the sections dealing with *zabing* 杂病 (miscellaneous diseases) are thought to be the basis of the *Jingui yaolue* 金匱要略 (Essential

> when the tongue root is yellow, descend. Then the yellow departs. If the tongue's colour is black, the heat has become very extreme. The *Huangdi* zhengjing (Yellow Emperor's Needle Canon) says: with heat illness, when the mouth is dry and the tongue is black, it means death. The heart functions as the sovereign, and it opens onto the tongue. Black is the colour for the kidneys. When you see this in the heart area, the heart being fire and the kidney being water, the evil heat has already become supreme. The ghost and thief [qi] are mutually injurious. Therefore, you know that death will ensue. Look carefully at this mouth and the tongue [I have described]. Then you are able to see these [things] with clarity.[74]

In the above passage we see importance attached to tongue appearances that are varied and changeable. Cheng reveals coatings that are white, yellow and black, with qualities of dampness, slipperiness, dryness and roughness. There are connections made between the state and functioning of the body's internal organs and the tongue's appearance. Issues of hot and cold and their changing primacy in an illness are discussed as well as drug recipes that address these issues. There are references made to antecedents of tongue inspection in both the *Shanghan lun* and the *Huangdi zhenjing*, and there is mortal importance attached to an inappropriate alignment of fire (heart) and water (kidneys). Also, two of the drug recipes that we will later see included in the *Jinjing lu* are recommended. All of these connections suggest that by this time, in the later years of the Song dynasty, the groundwork for a text featuring diagnosis according to the appearance of the tongue had been laid. Considering the discussion of the tongue images in Chapter 3, we can see that the author of the *Jinjing lu* and Cheng Wuji, are assessing the tongue's manifiestations during *shanghan* illness with a similar vision.

Table 1 Tongue Significances Found in the *Shanghan mingli lun*

Tongue correspondences	Theoretical concepts reflected in tongue appearance	Colours of tongue and coating	Qualities of moisture and texture	Body areas and organs reflected on tongue
Heart Fire South	*Qi* Superficiality Depth Cold Heat Exteriority Interiority	Red Yellow Black White	Dampness slipperiness Dry Rough	*Dantian* Chest Bowels Stomach Heart Kidneys

As we saw earlier, Du Qingbi compiled the *Aoshi shanghan jinjing lu*, telling us that he added 24 tongue images to an earlier text with 12 images by someone identified only as scholar Ao. Nearly 200 years elapsed between the publication of *Shanghan mingyi lun* in the Song dynasty and the *Aoshi shanghan jinjing lu* in the Yuan. In an era in which the dissemi-

Prescriptions from the Golden Cabinet), which was compiled during the Song from segments of the *za bing lun* found in various other texts. See Wiseman and Wilms, 2013.

74 *Shanghan mingli lun* 傷寒明理論 第二十二, pp.4b–5b. reprint of 1144 text, Library Archives of the Beijing Academy of Traditional Chinese Medicine.

nation of medical texts and their availability was not yet as prolific or widespread as it was to become in the Ming dyansty, it was perhaps not such a very long interval.[75]

In the next Chapter, with the establishment of *Yi'an* as a genre of medical writing in its own right, I will show that the frequency with which physicians looked at and noted the appearance of patients' tongues increased, and that this interest was most pronounced when patients' diseases had a febrile component.

75 The lost Song *Jinjing lu* and the expanded Yuan edition were both manuscript texts. There is much scholarly discussion regarding the increased ease of dissemination of imprint text over manuscript text. Brokaw, 2005 and 2007, Cherniak, 1994 and Chia, 2002 are among those who have written on this topic. For instance, McDermott, in Brokaw, (ed.), 2005, pp.64–69 declares that Song scholars and officials had difficulty seeing and acquiring imprints of even well-known books, that woodblock imprints continued to be few in Yuan times, and that the 'progress' of the imprint over the manuscript was not extensive in Song and Yuan book culture at large. This lends credence to Xue Ji's mention that he found it difficult, even in the Ming, to acquire a copy of the *Jinjing lu*, and to the fact that it was unlikely that there would have been a rapid dissemination of the tongue diagnostic text between its original authorship during the Song and its enlarged edition dated 1341. It is in fact the 1529 imprint edition in the collection of Xue Ji's case records that brought the *Jinjing lu* to wider recognition.

Chapter 5

The Case Records and the Physicians

'Someone said, "The dead writers are remote from us because we know so much more than they did." Precisely, and they are that which we know.' T.S. Eliot[1]

Introduction

This chapter will introduce the establishment of case record collections as a discrete genre during the Ming dynasty, as well as the transformation of their structure and content, and a subsequent increase in rates of publication. Following closely on the publications of the case records of individual physicians, we find the emergence of a second case record genre, the encyclopaedic collection, with large numbers of case histories of different physicians presented together. In these encyclopaedias, cases of eminent physicians are arranged into *juan*, or chapters, which are organised according to disease categories. Before this time, as we have seen, cases were certainly recorded, but their role was generally illuminative of other texts, being inserted within theoretical treatises, or sometimes appended to medical writings.[2] In the Ming period, the cases began to stand alone as a form of medical literature in their own right.

Throughout my exploration of case records, I will be paying attention to the changing significance of the appearance of the tongue as a diagnostic window for physicians. We have already seen a progression of attention to what tongue appearance can signal. In the early texts of the Han dynasty the tongue was understood to exhibit certain symptoms of illness and to offer prognosticatory information. In its blackened state it signified impending death. In the *Shanghan Lun,* certain qualities of the tongue, particularly coatings, related to aspects of *yin* and *yang* pathology. In the 36 images of the *Aoshi shanghan jinjing lu*, the appearance of the tongue was presented with reference to the *shanghan* system of illness progression with drug recipes attached to each manifestation, making tongue inspection in and of itself a significant and immediately useful diagnostic tool.

What we begin to see with tongue references in the *yi'an*, is the change from the tongue's primary significance as a site of symptomology,[3] to a growing tendency of physicians to record the relationship between types of illness and certain colours and coatings of the tongue. The physicians of the Ming and Qing dynasties inherited the significance of colour found in Han complexion diagnosis, but they were also heir to the arguments put forth by the Jin-Yuan innovators, particularly regarding issues of heat, as they reworked *shanghan*

---

1 Eliot, *Selected Essays* 1998, p.29.
2 Chunyu Yi's recording of cases is quite unique in its legal purpose.
3 As we see later in Sun Yikui's case, the tongue is the site of a problem, not a source of diagnostic information.

theories of illness. The increasing prominence of emerging *wenbing* concepts relating to the aetiology and symptoms of febrile illness was concomitant with the increasing attention to the tongue. We will see in this chapter that references to the tongue in case records was significantly more frequent when there were issues of heat or Fire.

As mentioned earlier, in 1531 the *Shishan yi'an* 石山醫案, (Stone Mountain Medical Case Records) was published.[4] This appears to be the first publication of a discrete collection of medical case records by a single author.[5] The cases were collected by the disciples of Wang Ji 汪機 who lived and practiced in Anhui, and compiled by Chen Jue 陳桷 during the physician's lifetime (1463–1539).[6] The form of this collection was rapidly emulated for other physicians.

The first section of this chapter presents two cases recorded by physicians Sun Yikui 孫一奎 (1522–1619 close parentheses another Anhui native, and Cheng Maoxian 程茂先 (1581–?) from Jiangsu province. They illustrate a new style of writing with a literary flourish that was utilised by scholar physicians of the era. In this section we will also see that the *Jinjing lu,* which remained a rare text during the early Ming[7], was lifted out of obscurity due to its inclusion in the writings of Xue Ji 薛己, and Wang Kentang 王肯堂, both eminent practitioners. In the second section of the chapter I will discuss the advent of encyclopaedic collections of case records. I will demonstrate that the *yi'an* in these collections provide a statistical window onto the growing use of tongue inspection and its increasing diagnostic relevance. In the final section of the chapter examples of the case records of two eminent physicians, Ye Tianshi 葉天士 (1666–1745) and Wu Jutong 吳鞠通 (1758–1836) will be presented. These cases demonstrate that by the time of the Qing dynasty, physicians were not only inspecting patients' tongues, but that they were doing so with a clear expectation of diagnostic import.

While case records, both personal and encyclopaedic, will show that physicians' inspection of their patients' tongue became increasingly frequent during the Ming and Qing dynasties, we will also see that tongue inspection is most frequently utilised in cases with a febrile aspect. It would not be until late in the Qing, however, that the visualisation of the tongue as a microcosm of the body's channel and organ system would become fully realised. It was this fact that would eventually establish the inspection of the tongue as a full diagnostic system which could take its place as a pillar of diagnosis alongside that of the palpation of the pulse.

---

4 For an in-depth examination of this case history collection, see Grant, 2003.

5 In an interesting reversal of cases being appended to theoretical treatises, this case history collection contains a theoretical appendix on the use of ginseng (rensheng 人參 and *huang qi* 黃芪).

6 This fact sets Wang Ji's *Shishan yi'an* apart from Xu Shuwei's *Shanghan jiushi lun,* and is relevant to the discussion as to the nature of Xu's published cases. A text of compiled cases published during its author's lifetime has an arguably more accurate provenance than one published some centuries afterwards.

7 We will later see this text's rarity declared by Xue Ji in the preface to his *yi'an.*

Section i: Physicians and early ming case records

Throughout my exploration of the inspection of tongues in case records, I necessarily focus on the cases of a small but representative group of eminent literate physicians.[8] The chart below gives a brief identification of the physicians whose cases figure in this dissertation, noting their names and dates, significant texts with dates of publication, and the localities in which they practiced. These physicians share a first crucial attribute - they were literate, and therefore had the ability to create records of their practice. Secondly, with the exception of Chunyu Yi, they practiced in Jiangsu in southern China. This is significant in that I follow Marta Hanson's (2011) argument that the medical understandings that developed into wenbing theory were a feature of the discourse among southern physicians. This discourse matured during the Qing dynasty, but its roots were in the Han *shanghan* tradition, which encompassed issues of hot and cold as they manifested in the body as aspects of illness. We will see that the cases presented in this thesis of these southern Song, Ming and Qing physicians, illustrate an attention to issues of hot and cold, and that by the time of the Qing dynasty, they also illustrate an increase in both innovative wenbing reasoning and practice, and attention to the appearance of the tongue.

Table 1 Biographical Chart of Physicians under Discussion in this Dissertation Regarding Case Records

Physician names	Dates	Location	Type of physician	Texts written, or in which found	Print date
Chunyu Yi 淳于意 aka Cangong 倉公	*c.*145–86 BCE	Qi Kingdom	Scholar	Biography in Sima Qian's *Shiji* 史記 (Records of the Grand Historian) Chapter 105.	
Xu Shuwei 許叔微 style name Zhi ke 知可	1075–1156	Jiangsu	Scholar (*Jinshi* 進士 1132) *	*Leizheng puji benshi fang* 類證普濟本事方(Original Formulary of Classified Manifestation Types for Popular Relief) *Shanghan jiushi lun* 傷寒九十論 (Ninety Discussion on Cold Damage)	1132 1132
Wang Ji 汪機 ** style name Shishan 石山	1463–1539	Anhui	Hereditary (father a physician) Scholar	*Shishan yi'an* 石山醫案 (Stone Mountain Case Records)	1531

* The *jinshi* 進士 was a degree awarded in the Imperial examination system.

** I do not present any of Wang Ji's cases, but have included him in this dissertation as he is widely considered to have authored the first collection of case records, published during his lifetime.

8 The long arc of practice and the extensive number of case history compilations in print by the end of the Qing dynasty necessitated an exceedingly frugal selection of such works to include in this dissertation. However, I believe that the case records compiled by this selected group of doctors allows us a window onto both the enduring and innovative concepts and behaviours that physicians deemed important to notice and record.

Table 1 cont.

Physician names	Dates	Location	Type of physician	Texts written, or in which found	Print date
Xue Ji 薛己, style name Xinfu 新甫 or Lizhai 立齋	1487–1559	Jiangsu	Hereditary (father a physician) Scholar (Palace Physician)	*Xueshi yi'an shiliu zhong* 薛氏醫案十六種 (Scholar Xue's Case Records, Sixteen Kinds) *Xueshi yi'an* 薛氏醫案 (Scholar Xue's Case Records) *Waike xinfa* 外科心法 (The Inner Essence of External Medicine)	1528 1529 1528
Sun Yikui 孫一奎 style name Shengshengzi 生生子 or Wenyuan 文垣	1522–1619	Anhui	Scholar (self-taught from medical texts)	*Sun Wenyuan yi'an* 孫文垣醫案 (Sun Wenyuan's Case Records) *Chishui xuanzu quanji* 赤水玄珠全集 (Mysterious Black Pearl of Red Water)	1599 1584
Wang Kentang 王肯堂,*** style name Yutai 宇泰 or Sun'an 損庵	1549–1613	Jiangsu	Scholar (*Jinshi* 1589) became physician later	*Zhengzhi Zhunsheng* 証治準繩 (Standards of Diagnosis and Treatment)	1602
Cheng Congzhou 程從周, style name Maoxian 茂先	1581–?	Jiangsu	Scholar	*Cheng Maoxian yi'an* 程茂先醫案 (Cheng Maoxian's Case Records) [preface written 1633]	1644
Ye Gui 葉桂, style name Tianshi 天士	1666–1745	Jiangsu	Hereditary (father and grandfather physicians,) Scholar	*Ye Tianshi yi'an* 葉天士醫案 (Ye Tianshi's Case Records) *Linzheng zhinan yi'an* 臨証指南醫案 (Case Records for Guides to Clinical Practice)	1766 1764
Wu Tang 吳塘, style name Jutong 鞠通	1758–1836	Jiangsu	Scholar	*Wenbing tiaobian* 温病条辨 (Systematic Analysis of Warm Diseases) *Wu Jutang yi'an* 吳鞠通醫案 (Wu Jutang's Case Records)	1812 **** 1833

*** While I will not be presenting Wang Kentang's case records, I include him in the list of physicians as it was to his *Zhengzhi zhengsheng* 證治準繩 that he appended the images of the *Jinjing lu*, thereby enabling its widespread dissemination due to the popularity of his publication.

**** The publication date is 1812, however, the preface to the text is dated 1798.

I have noted the 'type' of physician in the above chart. The two most prominent classifications here being either a hereditary[9] physician or the term first recorded in the 12th century, *ruyi* 儒醫 (scholar physician).[10] The Chinese character *ru* 儒 is alternatively translated as 'Confucian' or 'scholar' or 'literati'. I will use the term scholar as an interpretation in this dissertation, as I believe it sets aside any confusion between Confucian and Daoist personal proclivities among practitioners, and also provides a more useful connotation as to the active scholarly pursuits, over and above their literacy, undertaken by the physicians in question.

With reference to the Confucian or Daoist categories of physicians, it is useful to note that Daoism as a coherent set of traditions is at best a 1st century CE phenomenon, and Nathan Sivin declares 'even in the 3rd century the label 'Taoist (Daoist)' does not tell us very much.'[11] Among the categories of people to which the label 'Taoist' might be, quite unhelpfully, applied are: a hereditary priest; a mystical author; a monk; a lay member of a sect worshiping the Tao; a healer, medium or shaman; people living a non-conformist life outside Buddhist circles; those harbouring anti-feudal feelings.[12] The categorization of physicians as either Daoist or Confucian is often a retrospective interpretation. The catalogues of the Daoist or Confucian texts are compared to medical writings in an attempt to classify physicians' philosophies.

It was also unlikely that Han physicians would have classified themselves as 'Confucian', as it was only during that era that the imperial scholar Dong Zhongshu 董仲舒 (195–105 BCE) first proposed the canonization of Confucian learning and the establishment of an imperial college (124 BCE) for the study of Confucian texts, and it is far from clear how influential he was.[13] The texts, collectively known as the Five Classics (*Wujing* 五經) and the Four Books (*Sishu* 四書) became the basis of the imperial examinations, which, as we saw, were an innovation of the Sui.[14]

---

9 I have noted elsewhere in this dissertation, but it is worth calling attention to the fact again, that the practice of medicine in China has always included a multiplicity of healers, many of whom would have had their knowledge transmitted in a hereditary line. The distinction between hereditary and scholar physicians in this chart refers simply to the literate physicians under discussion who were able to generate texts.

10 Goldschmidt, 2009, pp.56–57.

11 Sivin, 1995, p.6.

12 Sivin, 1995, p.316.

13 The establishment of Confucian learning as a state ethic took place in the reign of the Han emperor Xuan (49–33 BCE) but the establishment of the civil service examination system based on Confucian learning was not complete until the Tang dynasty. See Loewe, 2011, pp.67–71, 335–342.

14 The Five Classics were comprised of the *Shi jing* 詩經 (Book of Poetry), the *Shu jing* 書經 (Book of Documents), the *Yi jing* 易經 (Book of Changes), the *Li ji* 禮記 (Book of Rites), and the *chunqiu* 春秋 (Spring and Autumn Annals). The Four Books include the *Lunyü* 論語 (Analects of Confucius), *Mengzi* 孟子 (The Mencius), the *Da xue* 大學 (The Great Learning), and the *Zhong yong* 中庸 (The Doctrine of the Mean).

Hierarchies in Medicine

The question of physicians' classification according to hereditary learning or scholarly pursuit is interesting. Commerce, printing and literacy spread rapidly during the Song, with a concomitant explosion in the publishing of medical texts. The government examination system underwent modification in the same period, allowing a more objective grading system for these examinations. Names of candidates were coded for anonymity, and the papers themselves were recopied to disguise identity.[15] By the 12th century, hereditary physicians were among those able to invest in their sons' education in preparation for these examinations, in hopes of allowing them to achieve official posts.[16] However, as we saw earlier, the number of government posts did not keep pace with the rising number of successful examination candidates. Local gentry elites necessarily searched for alternative careers, and that of physician became an increasingly attractive option.[17]

Beginning with the Song we see an increasing stratification of the world of healers with stringent attempts to control and eliminate the practices of those involved in practices considered deviant. During the Han, elite members of society consulted both shamans and physicians, but by the Tang and Song periods, shamans, often itinerant, were increasingly associated with the illiterate poor, and shamanic healing seen as couched in ritual, magical, religious and demonic practices. Physicians, however, tended to be literate, connected to a medical lineage of a fixed location, and conversant with canonical texts and formularies. The Song government decreed that the *wu* 巫 (shamans or spirit mediums) were to reform their ways and learn government prescriptions and acupuncture practice.[18] In 1023, a prefect in modern day Jiangxi, Xia Song 夏竦 (985–1051) acted to abolish shamanic practice in his jurisdiction. Having destroyed their shrines, 1900 shamans were:

> forced to change occupation and return to agriculture, as well as apply themselves to the practice of acumoxa, prescription, and pulse-taking. [19]

At the same time, however, the social boundaries between physicians and the literate elite were becoming more blurred and narrowed. During this period, a mélange of medical practitioners, including physicians trained in the lineage of a medical family, recipients of an oral transmission of medical skills in a master to disciple relationship, those who merely acquired the knowledge of a few prescriptions or techniques, and scholars with a new interest in med-

15 Elman, 2000, pp.14–15; Goldschmidt, 2009, pp.46–49.
16 Hinrichs, Barnes, 2013, p.115.
17 Hymes, 1987.
18 There is a fascinating treatment of Shamanic practice during the Song dynasty in Lin, 2015, pp.229–281.
19 Hinrichs, 2003, pp.25–26. Shamanic practice is described and discussed by many scholars in addition to Hinrichs, a selection of whom are Harper, 1998; Cook, Fan and Hinrichs in Hinrichs and Barnes, (eds), 2013; Sterckx, 2002, pp.186–189; Puett, 2002, pp.80–87; Chang, in Peterson, Plaks, Yü (eds), 1994, pp.10–36; Unschuld, 1985, pp.216–219

icine encouraged in its pursuit by the scarcity of civil posts, all coexisted in what we might call a plural medical marketplace.[20] The literati (*wenren* 文人) increasingly acknowledged that some learned hereditary physicians demonstrated exceptional medical understanding and were more akin to scholar physicians than mere medical craftsmen.[21]

Throughout the Ming and into the Qing, the number of literati aspiring to the study of medicine continued to increase. It was ever easier to acquire medical texts due to the upsurge in publications. Medicine, as either a career or a cultured hobby, was well established as an attractive pursuit for scholars well beyond those from traditional medical families. Consequently, literate medical amateurs undertook to train themselves from the widely circulating medical texts,[22] and while they may have had similarities with scholarly physicians, clinical expertise could not be achieved from books. It became common for novice doctors from elite backgrounds to seek to study with a renowned physician in the classical master/disciple model that had long been established through ritual and the passing on of texts.[23] While medical expertise continued to be transmitted within families, the new self-taught scholars of medicine often travelled to study with experienced non-familial doctors, if indeed they could find one to take them on, who themselves could be masters to a number of disciples. As the practice of medicine became gentrified, it was not unusual to be both a hereditary physician and a scholar physician. Thus, the terms 'hereditary' and 'scholarly' ceased to denote discrete groups, and yet continued to carry meaning.

Variations and Constancies in Recording Cases

Most case collections I have examined reveal a selection of stable features. They set out the identification of the patient, often with their age and gender, and a statement of their complaint. We read about the diagnostic procedures the physician employed, the treatment

---

20 This plurality of medical practice in China is well documented in scholarly work. The Song government's will to regulate and transform medical practice was a serious attempt t marginalise shamans. Edicts were imposed and decrees enacted to ban their practice. For a full discussion of shamanic medicine and its shifting position in China, see Hinrichs, 2003; Harper,1998, pp.158–183, and 2010 in Hsu, (ed.), p.101; Lo, in Hinrichs and Barnes (eds), 2013, p.40; Hinrichs, in Hinrichs and Barnes, (eds), 2013, pp.97–127; Katz, 1995, pp.87–88; Despeux, 2010, in Hsu, (ed.), pp.146–147; DeWoskin, (trans.), 1983; Sterckx, 2002, pp.186–189; Cass, 1999, pp.48–50, and Unschuld,1985, among others.

21 Hinrichs, Barnes, 2013, p.116.

22 See McDermott and Chia in Brokaw, 2005.

23 The master to disciple transmission of texts is an intrinsic part of the history of medicine in China, which has been written about vividly and extensively. A selection of such discussions on varieties textual transmission are found in Sivin, 1995, 182–183; Li Jianmin, 2008; Kern, 2007; Lo, in Lo and Cullen, (eds), 2005, pp.208–210; Kalinowski, in Lo and Cullen, (eds), 2005, pp.119–124; Hinrichs and Hong, 2015, p.243. Stanley-Baker has written extensively about transmission rituals in his PhD dissertation, see particularly pp.106–108; Gentz, in Kern (ed.), 2007, pp.124–148; Nylan, in Kern, (ed.), 2007, pp.3–49. Boltz, in Kern, (ed.), 2007, pp.50–78, suggests that transmitted texts may have had origins in oral performance, and that a *stable* textual form was the result of preference on the part of a predominant lineage, p.60.

selected and prescribed, along with eventual outcomes.[24] But as a genre which described the practice of literate physicians, the narrative structure could provide ready scope for the display of literary acumen,[25] should that be desirable. Consequently, case record styles varied enormously. As we will see in the following examples, a case record could become gloriously discursive. There was one documented attempt to limit this variety. Han Mao 韓懋 (*fl.* early 16th century) is generally credited with the creation of the first case history 'form' to be used in clinical consultations. In his *Hanshi yitong* 韓氏醫通 (Mr. Han's Generalities on Medicine), he proposed six rubrics to form a standard format for recording the clinical encounter: looking (*wang* 望), listening/smelling (*wen* 聞), asking (*wen* 問), touching (*qie* 切), reasoning (*lun* 論) and treatment (*zhi* 治).[26] While the categories for inclusion in the format have endured as features of practice, we have no evidence that his particular form ever attracted any popular use. On the contrary, the case records that survive demonstrate a rather splendid range of styles, as we will see later in this chapter.

The Tongue Images Reappear

Before focusing on the use of tongue inspection or lack thereof in case records, I want to point out that there was a budding opportunity for literate physicians to become aware of the tongue text. The *Aoshi shanghan jinjing lu* first appeared in 1341, but it was not a widely disseminated text. It received its first boost out of obscurity when two eminent Ming physicians included it in their writings. The first of the texts in which this occurred was Xue Ji's *Xueshi yi'an* 薛氏醫案 (Scholar Xue's Case Records), published in 1529, and the second was the 1602 *Zhengzhi zhunsheng* 証治準繩 (Standards of Diagnosis and Treatment) by Wang Kentang.[27] Xue and Wang did not just refer to the *Jinjing lu*, but included it in its entirety, providing access to its images and drug recipes for a much wider audience than had previously been possible. There was an interval of just over 70 years between the publications of these two works.

Later in this chapter I will present a case record by Sun Yikui, and another by Cheng Maoxian. Below is a chronological look at the dates of Sun's and Cheng's *yi'an* publications, along with the dates of Xue's and Wang's publications, which included the *Jinjing lu*.

---

24 A notable exception to this is found with Ye Tianshi's cases, in which outcome is routinely unreported and patient information is either sparse or non-existant.

25 As evidenced in Xu Shuwei's case above, both his literary ability and his medical knowledge were brought to bear in his argument for his diagnostic superiority. Also, the ability to impress one's patients or their families was never a bad thing.

26 Cullen, in Hsu (ed.) 2010, p.311.

27 Wang Kentang 王肯堂 included the complete *Jinjing lu* in his *Shanghan zhengzhi zhunsheng*傷寒証治准繩 (*Standards of Diagnosis and Treatment in Cold Damage*). It was published in 1602 and was reputed to have been the most widely circulated medical text of the 17th century.

Table 2 *Yi'an* Compilations and Republications of the *Jinjing lu*

Publication	Author	Text
1529	Xue Ji	*Xueshi yi'an* [*Jinjing lu*]
1599	Sun Yikui	*Sun Wenyuan yi'an*
1602	Wang Kentang	*Zhengzhi zhunsheng* [*Jinjing lu*]
1644	Cheng Maoxian	*Cheng Maoxian yi'an*

Given the fact that circulation of the texts containing the *Jinjing lu* and a resulting familiarity with their content would have taken some time during the Ming, it becomes reasonable to assume that the later case records would be most likely to show tongue inspection. As we will see, it is Cheng's case that provides a hint that tongue inspection was in fact becoming a more commonly practiced diagnostic behaviour. But first, we take a brief look at the physician who first appended the tongue text to his work.

Xue Ji and his Publication of the *Jinjing lu*

Xue Ji 薛己 (1487–1559) was the first to append the *Jinjing lu* to his *yi'an* compilation. He was also known as Xue Lizhai 薛立齋 or Xue Xinfu 薛新甫, and came from Jiangsu province in what is now Suzhou city. His father was a noted physician, Xue Kai 薛鎧, who headed the Imperial Medical Bureau and authored the *Baoying cuoyao* 保嬰撮要 (Selecting Essentials for Protecting Infants). After his father's death Xue Ji assumed the post of head of the Bureau and became a palace physician. He was the author of several medical texts, among them the *Waike shuyao* 外科 樞要 (Pivotal Essentials of External Medicine), *Neike zhaiyao* 內科摘要 (Essentials of Internal Medicine) and *Nuke cuoyao* 女科撮要 (Summary of Women's Medicine) and his case records were compiled by disciples into the *Xueshi yi'an* 薛氏醫案 (Scholar Xue's Case Records). He was the physician most frequently cited (70 cases) in the *fuke* 婦科 (women's medicine) section of Jiang Guan's *Mingyi lei'an*[28] which was published in 1591,[29] not long after Xue's death. Among the 141 physicians in the compilation, there are 484 cases considering various diseases categories attributed to Xue Ji. The second greatest number of cases recorded are those of Zhu Zhenheng 朱震亨 (1281–1358) with 355.[30]

Among his many contributions to medicine, the most important for my argument is Xue's inclusion of the entire *Aoshi shanghan jinjing lu,* complete with its 36 tongue images,

28 We will be discussing the advent of encyclopedic case records in the next section of this chapter.
29 Although the publication date for this work is 1591, the author's preface is dated 1549. It was circulated in manuscript form before publication.
30 These statistics are taken from Grant, 2003.p.42. Interestingly, Zhu Zhenheng, one of the Jin-Yuan masters, was a proponent of cooling strategies and nourishing *yin,* in opposition to Xue Ji and Wang Ji, both of whom advocated warming and tonifying strategies.

in his writings, thereby creating the first popularly available copy of the tongue text.[31] He thus provided the first imprinted as opposed to manuscript copy of this text, at a time in which we can be fairly certain that it was previously relatively unknown.[32]

Xue was practicing and writing during a time when the term *shanghan* functioned as a catchment phrase for most acute febrile illness, and in the *Xueshi yi'an*, he leaves no doubt as to the provenance of the tongue images he is introducing. He entitled the section on the tongue images *Waishang jinjing lu* 外傷金鏡錄 (External Damage Golden Mirror Record) but began with a credit to the author, whom he identified as *Qingbi xueshi Duxianshen* 清碧學士杜先生 (Mr. Du, the scholar Qingbi). The 36 tongues of the *Aoshi shanghan jinjing lu* follow, complete with drug recipes, some of which contain individual drug lists, some of which do not.

Xue provided an explanatory preface to the tongue section, and after echoing the *Neijing* statement that the tongue is the sprout of the heart, he went on to connect the colour/organ/substance correspondences set out since the Han to the body and coating of the tongue.

Below is a concise table of the classic colour/organ/substance correlation that figures in Xue Ji's work.

Table 3 Xue Ji's Colour, Organ, and Element Correlations

Colour	Organ	Phase, or element
Red	Heart/Small Intestine	Fire
Yellow	Spleen/Stomach	Earth
White	Lung/Large Intestine	Metal
Black	Kidney/Bladder	Water
Green	Liver/Gall Bladder	Wood

To these classic five colours, Xue noted that the tongue text adds a fifth, which was purple. The substance associated with this colour was an accumulation of poisons, or toxins. Rather than a specific organ, this colour was associated with evil *qi* as it increases in strength.

The preface goes on to mention the dryness and roughness of the tongue associated with uncontrolled Fire and heat, as well as the spots and cracks that can appear and which demonstrate problems with the body's Water.

Xue tells the reader that when the tongue coating is white, the evil *qi* has not yet been transmitted into the interior, and hence, the disease is not yet serious. By contrast, a coating that is slightly yellow locates the disease as entering the stomach. These statements make

31 Wang Kentang was the second to include the complete *Jinjing lu* in a text, his *Shanghan zhengzhi zhunsheng* 傷寒 証治准繩 (*Standards of Diagnosis and Treatment in Cold Damage*), which was reputed to have been the most widely circulated medical text of the 17th century.

32 Xue Ji mentions in his preface to the text that having learned of its existence, it had been difficult to find it.

it clear that Xue has absorbed the information in the *Jinjing lu.* While they resonate with the passage cited earlier in Cheng Wuji's *Shanghan mingyi lun*[33] in which he describes the movement and transformation of evil *qi* from the exterior to the interior of the body, and from cold to heat, they reflect nearly exactly the disease progression portrayed in the *Jinjing lu's* 1st, 20th, and 21st tongue images, which I restate below.

> 1st tongue: When the tongue manifests a white coat that is slippery, the evil is just beginning to enter the interior.
>
> 20th tongue: The tongue manifests a slight yellow colour. The exterior pattern hasn't disappeared.
>
> 21st tongue. The tongue has a yellow centre. … This is exterior evil going to the interior. Heat has gone into the stomach.

There is further evidence that the *Jinjing lu* inspired Xue Ji to pay attention to the appearance of the tongue. While references to tongue appearance is relatively rare in Ming medical writing, in the *Xueshi yi'an*, comprised of 77 juan, Xue mentions the tongue between 10 and 20 times in 12 *juan*, between 20 and 30 times in 3 *juan*, and there are more than 30 comments on the tongue in 3 *juan*. Of the 77 *juan*, only 9 of them omit the tongue presentation completely.

Though Xue clearly absorbed information the *Jinjing lu* offered, and took a hand in its promulgation, his clinical use of the tongue as a diagnostic aid was still embryonic. I argue that it is entirely reasonable to suppose that Xue, a palace physician, would have read Cheng Wuji's discourse on tongue coatings in the *Mingyi lun.* With interest piqued, he searched for and found, as he told us, a copy of the *Jinjing lu.* Appending this illustrated text to his *yi'an*, he assigned an instructive value to the tongue text. Charlotte Furth points out that in Chinese medicine, cases were used as a means to negotiate the gap between medical canon and therapeutic strategy.[34] Xue Ji deployed his case histories in an argument promoting the use of a warming and supplementing treatment strategy. With the inclusion of the tongue text, he was also making the implicit argument for the importance of the inspection of the tongue. This does not become a staple of diagnostic procedure until much later, but in a real sense, it was with Xue Ji's text that the stage was firmly set.

---

33 As Xue tells us that he searched for the *Jinjing lu* and found it difficult to acquire a copy of the text, we must assume some earlier interest on his part in tongue appearance. It is reasonable to postulate that this interest would have come from his study of the *Mingyi lun,* which was a Song publication, to which he certainly would have had access as a palace physician.

34 Furth, in Furth, Zeitlin and Hsiang, (eds), 2007, p.19.

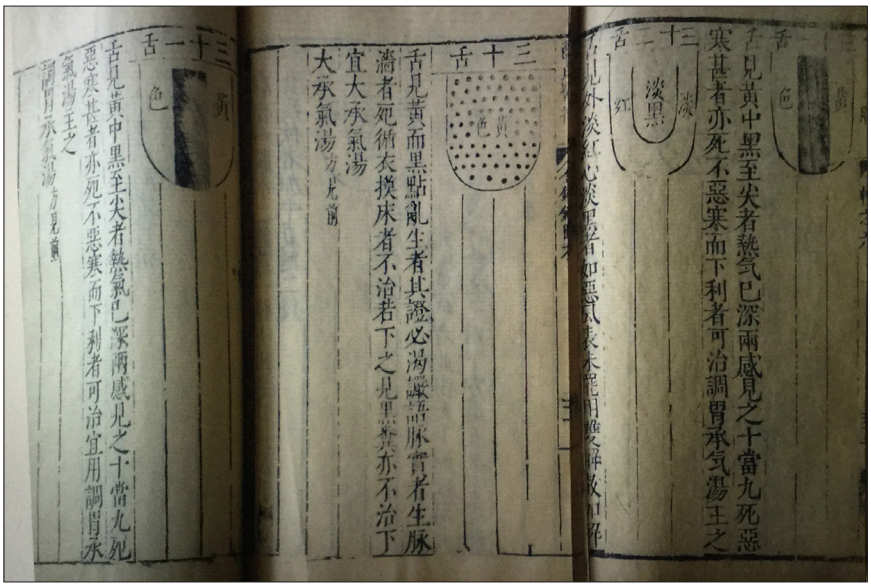


Figure 1 A comparison of the appended *Jinjing lu* in Xue Ji's 1529 *Xueshi yi'an* [on the left], and Wang Kentang's 1602 *Zhengzhi zhungsheng* [on the right]. The image on the far left displays tongue 31, described as yellow with a central black stripe that goes to the tip. The same image appears on the far right. Both include the drug recipe *tiao wei cheng qi tang* (Regulate the Stomach and Order the Qi Decoction). Courtesy of the Library of the Academy of Chinese Medicine, Beijing

Wang Kentang and a Further Publication of the *Jinjing lu*

Wang Kentang 王肯堂 (1549–1613), from Jiangsu province, was a court official who later became a physician. His *Zhengzhi zhunsheng* 証治準繩 (Standards of Diagnosis and Treatment) was published in 1602, and would be described in modern parlance as a text that 'flew off the shelves'. The sixth of the eight sections that comprise this work is entitled *Shanghan zhengzhi zhunsheng* 傷寒證治準繩 (Standards of Diagnosis and Treatment in Cold Damage), and it is here that we find the *Jinjing lu*.

Like Xue Ji, he appended the complete *Aoshi shanghan jinjing lu*, including the images. Both Xue and Wang list the prescriptions that accompany each tongue, as in the *Jinjing lu*. Xue lists the ingredients and dosages for the recipes, as in the *Jinjing lu,* but Wang does not necessarily do so. While it is impossible to say with certainty, this suggests the possibility that by the time of the publication of Wang's *Zhengzhi zhunsheng* the drug recipes found in the *Jinjing lu* were sufficiently well known to not need their ingredients and or dosages itemised.

Case Record Examples of Two Ming Physicians

Sun Yikui No italics for name, and add 孫 一奎 (1522–1619)

Sun's case records marry a clinician's gaze with a novelist's eye. An example of the diversity in record keeping I mentioned in the beginning of this chapter is on show in his work. Sun was sometimes disparaged for his literary storytelling bent, replete with personal digression. He is wonderfully loquacious, and has been described as someone who could be quite critical of doctors who are more laconic.[35]

What we know of Sun's life displays familiar tropes regarding his path towards becoming a physician. His father, a degree holder, became increasingly ill as his repeated attempts to pass advanced civil service examinations were met with failure. Sun was therefore keen to learn medicine in order to behave in filial fashion and help his father. There was also the appearance of a mysterious figure in his life, in this case a Daoist, who offered to transmit secret remedies and altered the young man's course from that of a trainee merchant to that of a doctor.[36] Sun had studied the classics, a valuable asset as he practiced in the prosperous Jiangnan region, famous for both medical learning and publishing.[37] Judith Zeitlin notes that his case records were edited by two of his sons and two disciples, and dates their publication around 1599. [38]

An example of his particularly vivid style of recounting the treatment of a patient follows.

孙文垣翳案

孙一奎

〈目錄〉卷三\新都治驗
〈篇名〉汪東之丈七月初旬虛陽口瘡（有發明）
內容：江東之丈，七月初旬自浙歸，連日與客手談過勞，口中生瘡，醫以香薷飲、清胃湯、瀉黃湯，三黃丸、黃連解毒湯、白虎湯、涼膈散。凡治上焦熱症之劑，竭寒涼而進之者十一日矣。
口瘡日甚一日，不但飲食不進，即藥亦難下咽，因瘡延及于喉也。逆予為診，其脈六部俱豁大無力。
診罷，有外科陳氏者自稱喉舌專門，炫其口疳敷藥之妙。予曰：汝試為口中一洗，
看是何狀？才開口見涎沫迷漫，不能得見肉色，陳以荊芥湯洗而引之，攪出稠涎一二碗余。傾于地上，偶見二雞爭啄之，二雞立斃，其毒何如？此亦疾之奇者。
予囑陳曰：汝用藥只可吹入喉中，切不可敷其舌，必候喉中全好，然后敷舌，待舌好再敷口唇，甚毋得概敷。恐毒無

35 Zeitlin, in Furth, Zeitlin and Hsiung, 2007, p.175.
36 As Zeitlin (p.177) points out, the meeting with a mysterious figure is a trope of great antiquity in China, serving to aggrandise one's learning. Nathan Sivin, (1995, pp.91–95), also notes that accounts of transmission of medical knowledge have a persistent revelatory aspect.
37 ibid, p.169; Scheid, 2007, p.27–28.
38 See Zeitlin, in Furth, Zeitlin and Hsiung, (eds), 2007, pp.169–202.

出路，反攻入喉，極為誤事。陳曰：諾。予對乃翁曰：令郎之疾，乃虛陽口瘡也。翁曰：當用何劑？

予曰：附子理中湯，煎熱待冷凍飲料之，可救。如他藥不能立功。翁曰：瘡乃熱症，況上身已熱，又天時酷暑，大熱之劑其敢進乎？

予曰：此陰盛格陽之症，初未嘗如此，因服寒涼過劑激之使然爾，翁不看其兩足膝下皆冷乎？翁用手探足下果冷，乃欣然聽用。

用人參、白術各三錢，大附子、炮姜、炙甘草各一錢，水煎冷與之。服后即鼾睡達旦，次早便能食粥半盞，足膝下漸暖，藥仍如前。早飯后，予

與二三友散步山溪，午刻歸來，乃見舉家大慟于地，見予至，哭語予曰：不可為矣？本是熱病誤服熱藥，今舌腫大，塞滿口中，不能言語，死在頃刻，奈何？奈何？予駭然應曰：安得有是不祥語也？今晨診脈與昨不二，適往返不過二時許，何倏爾有此大變乎？待予再診決之，及診六脈漸斂較昨大有神氣，面色亦和，獨舌脹大。予心知為陳寒涼敷藥所致也。

乃詰陳曰：

我別后可用敷藥否？陳點首曰：已二次矣。予撫翁及諸人曰：無慟，立看予為翁消之。急取官桂研末五錢，用生姜自然汁調涂舌上，才涂上但見眼淚雙流，鼻中涕出，口內涎垂，舌頓消去。語近侍曰：我無事矣。諸環侍者，男婦不下二十，皆面面相覷，以為神奇。予曰：可即取粥與食，使壓之庶虛火不再升。適舌脹滿者，乃敷藥寒涼，閉其毒瓦斯，毒無從出，故作脹耳。桂皮乃辛熱之物，又以姜汁調涂，取辛散之義也。諸人皆服其論。[39]

Sun Wenyuan's Case Records[40]

Sun Yikui

Chapter 3

Wang Dong's husband had a *yang* deficiency weakness in early July with mouth ulcers.

Wang Dong's husband returned from Zhejiang province in the early part of July, and got very tired after meeting with many guests for a couple of days. There are sores that then appeared in his mouth.

This can be treated with *xiang ru yin* 香薷飲 (*Elsholtzia* Beverage), *qing wei tang* 清胃湯 (Clear Stomach Decoction), *xie huang tang* 瀉黃 湯 (Drain the Yellow Decoction), *san huang wan* 三黃丸 (Three Yellow Pills), *huang lian jie du tang* 黃連解毒湯 (Coptis Release Toxins Decoction), *bai hu tang* 白虎湯 (White Tiger Decoction), *liang ge san* 涼膈散 (Cool the Diaphragm Powder). Such medicines treat heat illness in the upper burner, and they made progress with the cold he had for 11 days.

The sores got worse, and he could hardly eat anything, including the medicine, because the sores were appearing in the throat. He asked me for another diagnosis. I felt his pulse and found that all six positions were big and lacked any force.

After my diagnosis, a Mr. Chen arrived who proclaimed himself as a throat and mouth specialist. He showed his ointment saying it is best for mouth sores.

I said: 'Can you try to put some into his mouth, so we can see what would happen?' Right after he applied the ointment, the mouth filled with saliva and you could hardly see any flesh colour in the mouth. Then Mr. Chen used *jing jie tang* (schizonepeta decoction) to wash out his mouth. Following this, about two bowlfuls of thick saliva came out.

It fell on the floor, and two chickens ate it in a great hurry. But these two chickens suddenly died after eating it. What kind of poison is this? This disease is very strange.

---

39 *Sun Wenyuan yi'an*孫文垣醫案 modern edn. Beijing: 2012, p.106.

40 Wenyuan was Sun's style name.

I told Mr. Chen: 'you can only blow the medicine into the throat. You must not put it onto the tongue. After all the sores have cleared in the throat, then you can put it on the tongue. After all the sores have cleared on the tongue, then you can put it on the lips. You must not do it in one go. Doing so would mean the poison has nowhere to go, and can't come out of the throat. This can delay the treatment. Mr. Chen said, 'Yes, I see.'

Then I told Wang Dong's husband, 'Your disease is *yang* deficiency type mouth sores.' He asked me, 'What medicine should I then take?' I told him that '*fu zi li zhong tang* 附子理中湯 (Prepared Aconite to Regulate the Middle Decoction) should be cooked, then drunk after it has cooled. This can cure your illness. No other medicine can cure this sort of illness.'

Wang Dong's husband said 'My sores are a kind of heat illness, my body also feels hot, and this is the summer season so the weather is hot. Can this hot medicine really cure my illness?'

I said, 'This disease is excessive *yin* repelling *yang*. At first, it is not necessarily like this, however after you've had too much in the way of cold things, it becomes like this. Old man, you didn't look at your knees, but below them it is cold, isn't it?' The old man used his hand to feel his lower legs. They indeed were cold. After this he saw I was right and he was happy to listen.

Use: ginseng, attractylodes, 3 *qian* of each,[41] large prepared aconite, soaked ginger, toasted licorice, one *qian* each. Cook these in water and drink it after it cools. After drinking this, Wang Dong's husband went to sleep for the whole night. The next morning, he could eat half a bowl of congee, and felt warm below his knees.

After breakfast, I went for a walk with my friends. But when I got back at midday, I saw Wang's whole family waiting for me and crying, 'It doesn't work. The disease is actually the heat disease, and we made a mistake to take the hot medicine. Now, the tongue is getting bigger and bigger, nearly filling up the whole mouth already. He cannot even talk now. He might die soon. What can we do now?'

So I asked them, 'Did he say he had any discomfort anywhere?' This morning's pulse was the same as yesterday's pulse when I felt it, and that was not two hours ago. It is right that I check it again. What has suddenly caused this big change?

I needed to decide. The six pulses were comparatively more restrained, and they had more vital qi, the colour of the face was also better. Only the tongue was worse. At this point I understood that the reason for this was Mr. Chen's cold medicine.

I asked Mr. Chen, 'After I left, did you apply some of your medicine?' Mr. Chen nodded and said, 'I did two times'.

Then I told everybody, 'Don't worry, let's see how I can help to reduce the swelling of the tongue.'

I took 5 *qian* of cinnamon powder, mixed it with ginger juice, and applied it to his tongue. Right afterwards, his eyes were tearing, nose was running, and saliva was running from the mouth. Then the tongue began to get back to normal.

He spoke after we waited, and said 'I am all right now.' All the people, not less than 20 of them, were shocked and thought it was amazing.

I told him, 'Now you can have some congee, the deficiency heat won't ascend. The tongue filled the mouth because of the cold medicine you put on the mouth. This blocked the poison. Because the poison can't come out, the tongue swells. Cinnamon bark, mixed with ginger juice, is a drug with pungent and hot properties. This can help to expel the poison.'

---

41 The Chinese measurement of 1 *qian* is equal to approximately 3gm.

In this case history, we are not short of descriptive detail. We learn the patient has just returned from a trip. He was treated for a cold that was getting better, but the accompanying mouth ulcers were getting worse and he wanted another diagnosis. A Mr. Chen, who proclaimed himself to be a throat and mouth specialist is introduced. The manner of introduction, and the later detailed explanation to Chen about the proper method treatment suggest he is of a lower status than Sun. We are shown chickens greedily eating what poisons them, and the patient chided for not realising his legs were cold beneath the knees. We learn that the physician writing up this case went for a walk of about 2 hours with his friends, after breakfast. There is a description of a distraught family, numbering more that 20 members, who registered their shock and amazement at the efficacy of Sun's treatment. All in all, neither a concise nor terse record but with all the page-turner quality of a good story.

This case, like those of Chunyu Yi and Xu Shuwei cited above (Chapter 4), is another description of an illness with issues of cold and heat. Diagnostic methods are clearly illustrated as we see Sun examining the patient's pulse and commenting on the colour of his face. While the tongue is mentioned, its appearance here is only significant as the symptomatic site of the illness. It is not a diagnostic tool in its own right, and it is not the deciding factor in the choice of drug recipe. Its state demonstrates that something has gone wrong, but its appearance does not indicate to the physician what that is. The use of the tongue as a diagnostic tool does not appear in Sun's practice.

A physician's use of such literary flourish in a case record was a method of underscoring one's scholarly pedigree at a time when competition in the field was great. Thus, the case history format functioned as an obvious vehicle for literate physicians to distinguish themselves from more lowly categories of healers, and highlighted a hierarchy in medical practice. This had been an aspiration from at least Song times, and it is worth noting again that with the rise in numbers of scholars turning to medicine as a profession during the Ming, a beautifully crafted case record was proof of eminence. Another Ming physician from Anhui, Wu Kun 吳崑 (1552–1620), explained thus:

> Writing down the pattern of ruler and minister in the drugs used in the prescription is in order to make the patient understand and try it. Writing one's name at the end is because one wishes the patient to remember it, so that he will attest one's humble labours.
>
> When one is attending on the sickness of a prince, a grandee, a high minister or a scholar, one should write out such a case statement (*bi shu ci yi an* 必書此一案), without the slightest negligence, and then one may truly be counted as a real physician.[42]

As we might expect, Sun Yikui was not alone in displaying literary flourish in his case records. Following Sun in age by approximately half a century was the physician Cheng

42 Cullen, in Hsu, 2001, p.319. This quote harks back to the multiplicity of practice discussed in Chapter 1, and highlights the fact that literate physicians were practitioners who attended the ills of the elite.

Congzhou 程從周 (style name[43] Maoxian 茂先). His literary skills were apparently so polished that he was reputed to have read segments of his case records to his poetry group.[44] Cheng has left us 93 case records. The one offered below is of particular interest in terms of the role the presentation of the tongue plays in the interchange between patient and physician.

no italics for name, and add 程茂先 (1581–?)

Cheng Maoxian

程茂先醫案, 卷二

方廷聞年五十二歲，有艾妾，素勤勞多事，七月聞得伏陰感寒之症。發熱，小腹疼，已易老醫數人，皆作暑熱而治，或發散，或清暑，香薷天水之類靡不雜進，延至十二日，醫云：'此積滯已久，内熱已深，法當下之。'且自伐云：此症幸遇于吾，若他人亦不識此。'乃用大劑硝黃，藥一下咽，而委頓不堪，因而次日又更一醫，醫見其身熱未退，用清熱和解之劑， 無異曩者之謀。次日復來，則云：'前者下之未盡，今宜復下之。'病人昏憒於無知，諸人不諳於藥性，但見其平素虛名，唯唯聽命而已，孰能與之商榷寒熱者哉？ 於是再以硝黃進之，便未通而奄奄待盡矣。此早急邀余過診，見其仰臥睡椅，雙眼露白，汗出如流，渾身冷若鐵石，六脈全無。一僕從傍以巾拭汗，殆無停輟，而病者喘息之聲斷續之間僅存一線而已。大勢已去，余乃力辭不治。舉家聞言，環立而泣，出手中襁褓兒示曰：'方氏存此一脈耳，設果不諱，其誰育之！望先生發仁者之心，施意外之巧，試投一匕劑，則永銘再生之德，否則以免他日之悔。'言罷復泣，予亦不能恝然出門，隨用生脈散灌之， 進藥少選，喘急頗定，汗亦漸斂，手足略溫， 右脈隱隱現如蛛絲，便能言語，命人擡上籐榻。予乃再用人參五錢，附子三錢，黃芪三錢，白朮三錢，黑乾薑二錢，肉桂一錢， 炙甘草二錢，面投一劑，鼾睡如常。薄暮前醫復至，診之云：'今日脈更好，大虧昨日一行。'其親汪獻臣知其錯誤，乃故詰之曰：'舍親似覺虛極，可用與參否？'醫曰：'傷寒無補法，人參一分亦不可用。'獻臣暗哂曰：'一分固不可用，今兩次已服過一兩矣！'晚間再診，左手亦漸有脈，予方持一燭置床邊，將欲觀其面色，乃病者遽自向予伸舌，意謂予索觀其舌也。侍立者見之，無不稱賀，共喜再生。予曰：'未也，姑待之以觀其變。'乃照前方，復進一劑。次日人事稍清，但小腹仍痛，為灸関元數醮。

Cheng Maoxian's Case Records, Chapter 2

Fang Tingxian, 52 years old, had a concubine with whom he was quite busy, and in the 7th month caught a cold. He had a fever and a stomach ache. 'He had already tried several elderly doctors, who all treated him for Summer Heat [*shu re*], either releasing and dispersing or clearing [heat] with things like aromatic madder and Heavenly Water. He took in every kind of miscellaneous ingredient … After the 12th day … the sick man was too stupefied and dazed to know anything. Everybody [else] was ignorant of the nature of materia medica, but seeing the doctors as men of repute, they just agreed to their directions. Who was there to discuss matters of Hot and Cold with? So they gave him more nitre and rhubarb [root] and waited in vain for his bowels to move. The next morning, they called me in haste.

When I arrived I saw him stretched out sleeping in a chair, eyeballs white, sweat pouring like rain, his whole body cold like metal or stone. His six pulses were gone. A servant stood

43 A style name, or *zi* 字, was either bestowed or chosen in adulthood in Imperial China. Names would consist of a *xing* 姓 (surname), *ming* 名(given name), and *zi* 字(style name, sometimes referred to as courtesy name). In physician Cheng's case, his *xing* was Cheng 程, his *ming* was Congzhou 從周 and his *zi* was Maoxian 茂先. Non-family members tended to use the *zi*, a more public name. Hence, his case records are entitled Cheng Maoxian Yi'an 程茂先醫案.

44 *Thinking with Cases*, Furth, Zeitlin and Hsiung, (eds), pp.138–139.

> by with a cloth continually wiping the sweat. But the sick man's panting breath, now stopping now starting, showed there was only a thread of life there. The main event was already over; I forcefully declined the case as hopeless. When the household heard these words they stood around me in a circle weeping. Holding out a babe in arms [its mother] said, 'The Fong surname has only this one heir; if he expires who will raise [this babe]? I can see, Sir, you have a compassionate heart. Use extraordinary skill! Try for a long shot! You may earn the merit of saving a life or at least avoid future regret.' Having spoken, she resumed weeping.
>
> I could not just callously walk out the door. So I used a Live Pulse infusion[45] and forced it down his throat. The medicine took hold somewhat, the panting abated somewhat, and the sweating gradually ceased, his hands and feet warmed. His right pulse was faintly discernible, like pearls on a string, and he could speak. He asked to be raised up on a rattan platform. Then I used five qian of ginseng, three qian of aconite [*fuzi*], three qian of astragalus root, three *qian* of cinnamon heart [*rou gui*] and two *qian* of burnt liquorice. He breathed and slept normally.
>
> Toward evening the previous doctor returned, took his pulse and said, 'Today his pulses are improved, happily, due to our actions yesterday.' Fang's affinal kinsman, Wang Xianchen, knew this was wrong and questioned him, saying 'It would seem one can use ginseng in cases of such great depletion, can't one?' The doctor replied, 'In Cold Damage cases one never uses the method of replenishing, not even a single pinch [*fen*] of ginseng.'
>
> Xianchen challenged this: 'One definitely can't use one pinch; today he took more than a *liang* twice.'
>
> That night I came back and found his left pulse was also faintly discernible. I put a lantern by the bed to see the sick man's face and he stretched toward me and showed his tongue, wanting me to look at it. Seeing this, those in attendance were overjoyed that he had revived. I said, 'Not yet. We must watch for changes [*bian*] in his condition.' I gave another dose of the previous infusion. The next day his faculties were clearer but his lower abdomen still ached, so [I] used moxabustion on his *guan yuan*[46] aperture.[47]

Sadly, the outcome for this particular case was unsuccessful. The changes in patient Fang's condition proved to be fatal, and we are told it was wholly due to the incorrect treatment given by the previous doctors.

It is a fascinating case, replete with vividly drawn family members, raised hopes and ultimate sadness. First of all, we see that physician Cheng positioned himself as both scholarly and benevolent, thus distancing himself from the previous doctors in attendance who had essentially bungled the case. In so doing, he secures his place at the top of the hierarchical medical world of the Ming. Secondly, we read his central lament, 'who was there to discuss Hot and Cold with?'. This rhetorical question reveals a pivotal discourse in the Ming and the Qing, and in the story of tongue diagnostics: what is a 'Hot' illness, what is a 'Cold' illness, how can you distinguish between them, and what drugs are appropriate in each. It is

---

45 The recipe translated as 'Live Pulse infusion' (*sheng mai san* 生脈散) contains *ren shen* 人參 (ginseng), *mai men dong* 麦門冬 (ophiopogonum) and *wu wei zi*五味子(schissandra).

46 This locates an acupuncture point on the centre of the abdomen, 3 *cun* 寸 (1 *cun* is approximately 3.3cm) below the umbilicus.

47 Translation by Furth, 1999, pp.240–241.

noteworthy that in addition to the use of warming drugs[48], Cheng also used moxibustion on his patient.[49] He shared the advocacy of the use of ginseng and astragalus with other earlier physicians from Jiangnan. The writings of both Wang Ji and Xue Ji who were both proponents of the warming and tonifying *pai,* or current of thought, were in circulation by the time Cheng was practicing, and it is reasonable to assume he would have read them.

Thirdly, and most intriguingly for my argument, this case record suggests that at the time Cheng Maoxian was practicing, the inspection of the tongue in the clinical encounter was well known enough that the patient himself displayed his tongue to the physician without having to be asked to do so. The record states that the patient wanted physician Cheng to see his tongue – not that Cheng asked to inspect it.[50]

Looking through Cheng Maoxian's other cases, I found that he occasionally notes the appearance of a patient's tongue, but it is usually not particularly descriptive. Many of the tongues described are 'dry' or 'parched', and they are often noted in combination with a mouth that is also dry or parched. Indeed, he sometimes also mentions a dry mouth without any reference at all to the tongue. Cheng does at one point suggest that a tongue which had been dry and now appears black is indicative of the heat and poison not yet being totally cleared.[51] There is also a mention of a red tongue, but these references are incidental, and do not include the wider array of possibilities in tongue presentation, such as various coatings, cracks and spots, and tongue changes reflecting changes in the illness, all of which are presented in the *Jinjinglu*.

In other words, there are things of interest here, and an attention to tongue appearance that is greater than that seen in the Han or Song cases, or indeed in the earlier Ming cases, such as those of Sun Yikui, but not really much that is diagnostically new. Cheng is not attempting to organise information from the tongue into a system of diagnosis. We also do not see him making any particular reference to the recipes of the *Jinjing lu*. The one recipe he mentions by name is *sheng mai san* 生脈散 (Live Pulse Infusion).[52] This is first noted in the Yuan dynasty formulary *Yixue qiyuan* 醫學啟源 (Expounding on the Origins of

48 Ginseng, used in both cases above, is a warming drug, as are astragalus root (*huang qi*黃芪) and cinnamon heart (*rou gui* 肉桂). Aconite (*fu zi* 附子) is considered one of the hottest herbs in the entire *materia medica.*

49 Cheng only resorted to moxabustion in dire cases, usually when a patient was too weak to easily swallow drug decoctions, as we have seen with this patient. See Grant, 2003, p.83.

50 This description of a patient wanting physician Cheng to inspect his tongue, suggests a popularity attached to the practice. It is noteworthy that, unlike the previous case of Wang Dong's husband in which the first statement in the record identifies mouth ulcers as a focus of the illness, demanding Sun Yikui's attention to the mouth and tongue, Cheng Maoxian never mentions any particular problem with either the mouth or tongue of his patient. Consequently, in this case, we can see the tongue presentation as a diagnostic indicator, not a location of symptom.

51 Cheng [*c.*1539] 1993, p.38.

52 Perhaps more commonly referred to today as Generate the Pulse Powder.

Medicine). It is therefore likely to have been known at the time of the compilation of the *Jinjing lu*, but it is not part of its collection of drug recipes.

Certainly the recording of a clinical encounter can and did take various forms, individual cases might proclaim a physician's personal insights in a case, or highlight a remarkably successful treatment. As physicians document a collection of their clinical successes and [very occasional] failures, particular treatment strategies emerge which can identify the doctor as an advocate of a particular *xue pai* 學派 (current of learning).[53] The publication of case records could therefore be instrumental in promoting particular styles of clinical interventions and reasoning, as well as in advancing a physician's reputation as a proponent of certain strategies of treatment. Also, when disciples compiled and published the case records of an eminent physician, they could expect to gain in prestige simply by association.

But in addition to the indication of current discourse over treatment strategies, it is reasonable to infer that a group of case records by an individual author will also highlight prevalent diagnostic practices among physicians, and by extension, the expectations and behaviours of the patients they treat. Consequently, patient Fang's eagerness to extend his tongue suggests he had seen or experienced other physicians using tongue inspection as a diagnostic tool.

Section ii: Encyclopaedic collections of case records

Introduction

A large number and variety of medical books were published in China, particularly in the regions of the Yangzi delta, during the Ming and Qing dynasties. As Benjamin Elman describes it:

> Woodblock printing reached its peak in technical sophistication in the mid-16th century with the rise of scholar-printers in the Yangzi delta, but the scale of printing and scope of the market were also controlled by the more commercially oriented printers in Fujian and Sichuan. During the late Ming, Nanjing, the Ming southern capital and nearby Hangzhou and Suzhou (all in 'Jiangnan', south of the Yangzi River) became the centre for quality printing… . But Jianyang, the centre for commercial publishing in Fujian, produced a larger quantity of …popular manuals, (including medical handbooks).[54]

Collections of clinical cases of various physicians were among such proliferating publications, and one of the best known of these is an encyclopaedic work, the *Mingyi lei'an* 名

53 As I noted earlier, I am indebted to Volker Scheid and Marta Hanson for offering the translation of *pai* 派 as current, rather than the more commonly used terms of school, faction, lineage or group. In terms of generations of physicians and the theoretical frames of reference within which they work, the use of the term current suggests ongoing aspects which can possibly be more transformative than fixed. In times of innovation, this is an important distinction.

54 Elman, 2007, p.137.

醫類案 that heralded a new genre. Its collected cases document the clinical experience of physicians from previous dynasties, the greatest number of them from the Song, Yuan, and Ming. The excerpted entries are gathered from the Confucian classics, dynastic histories, philosophical works, *belles-lettres*, and some previously secret family recipes and clinical cases.[55]

Case Records to Encyclopaedias

By the end of the 16th century, *yi'an* writing had become an established medical form, and another innovative genre appeared: the encyclopaedic anthology of cases taken from the records of eminent physicians. The *Mingyi lei'an* 名醫類案 (Classified Case Records by Famous Physicians) was the first of these, and was compiled by Jiang Guan 江瓘 (father) and Jiang Yinsu 江應宿 (son), who gathered cases of famous physicians, past and present. Published in 1591,[56] it was both an historical archive and a clinical reference. This collection was expanded upon by Wei Zhixiu 魏之琇 (1722–1772) who augmented the first compilation by including the case records of more contemporary and well-known physicians, and by adding disease categories. This extended text was entitled *Xu mingyi lei'an* 續名醫類案 (Supplement to Classified Case Records by Famous Physicians) and published in 1770.

A comparison of these two encyclopaedias shows that there is a significant increase in the number of tongue mentions in cases from the Ming to the Qing text. But the difference goes beyond a simple numerical increase. We will see that the number of disease categories were expanded in the later text, and that the categories with the highest number of tongue mentions are clearly those that include an aspect of heat or Fire.

The *Mingyi lei'an*

The cases in the *Mingyi lei'an* are arranged into 12 *juan* with 205 disease categories or subsections. A look at the occasions of tongue observations that are recorded in the collection and their distribution among categories of disease provide an intriguing picture of the perceived usefulness of tongue presentation during the Ming.

In the 12 *juan* of the *Mingyi Lei'an*, there are 130 mentions of the tongue. Without, at this point, paying particular attention to the individual qualifiers of these tongue references,[57] it is useful to note that while references to the tongue are not rare, the great majority of the

55 Fan Dainian, 1996, vol. 179.
56 The publication date was 1591, but the preface to the compilation was written in 1549.
57 By qualifiers I mean whether or not the tongue mention is accompanied by a reference to its attributes such as colour, moisture, shape, coating and location of any of these.

disease categories in these *juan* have no mention of the tongue at all, as can be seen in Table 4, below.

Table 4 Distribution of Tongue Mentions in the *Mingyi lei'an* among the 12 *Juan*

Juan	**0 tongues**	**1–3 tongues**	**4–11 tongues**	**12 or more tongues**	**Total disease cagegories in the *juan***
Juan 1	5	4	1	1	11
Juan 2	4	3	1	1	9
Juan 3	12	2	0	0	14
Juan 4	5	4	0	0	9
Juan 5	9	4	0	0	13
Juan 6	16	1	0	0	17
Juan 7	15	4	0	2	21
Juan 8	12	3	0	0	15
Juan 9	12	2	0	0	14
Juan 10	23	3	1	0	27
Juan 11	17	2	1	0	20
Juan 12	30	4	1	0	35

Of the 205 disease categories in this collection, 160 of them have not a single mention of the tongue. The 45 categories that do record any information about the tongue comprise less than 23% of the total.[58]

The paucity of mentions of the tongue in these case records suggests that at the time of the compilation of the *Mingyi lei'an,* the appearance of the tongue had some significance to some physicians in some cases, but it had certainly not yet become an important diagnostic tool in and of itself. The tongue held interest for varied reasons which ranged from straightforward problems with the organ itself, to the tongue's relationship to channel trajectories, its significant associations within the tradition of systematic correspondences, or to its ability to reflect particular disease states.

The disease categories in which tongue presentation does occur is significant. Those including 12 or more tongue references occur in only three of the *juan.* In the first of these, *juan* 1, the specific category is *shanghan* 傷寒 (cold damage) in *juan* 2 it is *neishang* 內傷 (internal damage), and *juan* 7 contains two categories of numerous tongue mentions, *yin* 瘖 (inability to speak) and *she* 舌 (tongue).

These last two categories have unique peculiarities that mitigate their importance in regard to their higher numbers of recorded mentions of the tongue. The inability of a patient to speak required a physician to ascertain that the patient did indeed have an undamaged and functioning tongue, and therefore its inspection did not necessarily signal relevance for

58 We will see that this percentage rises in the Qing encyclopaedia.

other symptom or illness. Similarly, for the category of the tongue itself, the concern was more for the functionality and state of the sensory organ than for its association with further information regarding disease states in the body. Consequently, the category of *shanghan* records a considerably larger number of references to the tongue that are diagnostically relevant to a patient's general state than any of the other categories.

Juan	**Disease category in which the appearance of the tongue is mentioned**	**Number of tongue mentions in category**
Juan 1	*Zhongfeng* 中風 stroke	4
	Xufeng 虛風 deficiency wind	1
	Zhonghan 中寒 cold in the middle	1
	Shanghan 傷寒 cold damage	20
	Wenyi 瘟疫 epidemic disease	1
	Datou tianxing 大頭天行	1
Juan 2	*Neishang* 內傷 internal injury	12
	Shu 暑 summer heat	1
	Shi 濕 dampness	1
	Xiaoke 消渴 diabetes	2
	Huore 火熱 fire heat	4
Juan 3	*Tan* 痰 phlegm	2
	Nüe 瘧 malaria	2
Juan 4	*li*痢 dysentery	1
	outu 嘔吐 vomiting	1
	Yege 噎膈 difficulty swallowing	1
	Piman 痞滿 fullness in the epigastrium	1
Juan 5	*Zhengjia* 癥瘕 abdominal mass	1
	Xusun 虛損 consumption	1
	Bianzhuo 便濁 turbid urine	1
	Mamu 麻木 numbness	1
Juan 6	*Shoufeng* 首風 head wind *	1
Juan 7	*Zhuchong* 諸蟲 parasitic worms	1
	Xiao 哮 wheezing	1
	Yanhou 咽喉 sore throat	2
	Ko 口 mouth	1
	She 舌 tongue	21
	Yin 瘖 inability to speak	14
Juan 8	*Xuezheng* 血症 blood disease	3
	Shenzang fengchuang 腎臟風瘡 kidney organ wind ulcers	2

* Chapter 42 of the *Suwen* states that '…新沐中風, 則为首風' if one has just washed one's hair and suffered a stroke, this is called 'shoufeng 首風' (head wind). Unschuld, 2011, p.630.

Table 5 Tongue Distribution According to Disease Category in the *Mingyi Lei'an*[59]

59 It is incontestable that during the times in which this and the later encyclopaedic text were compiled, and during which the physicians they referenced were writing, there were no medical nosologies such as 'diabetes', 'gravid oppression' and 'lateral suppurative osteomyelitis'. However, for reasons of clarity I have chosen in most cases to translate the disease categories of these texts with the terms in common current usage, as found in the *Classified Dictionary of Traditional Chinese*

Table 5 cont. Tongue Distribution According to Disease Category in the *Mingyi Lei'an*

Juan	**Disease category in which the appearance of the tongue is mentioned**	**Number of tongue mentions in category**
Juan 9	*Sizhi bing* 四肢病 four limbs disease	1
	Dingchuang 疔瘡 boils	1
Juan 10	*Beiyong juchuang* 背癰疽瘡 back ulcers	2
	Naodingju 腦頂疽 head ulcers	4
	Jiaogen chuang 腳跟瘡 heel ulcers	1
	Sizhen yubing 死枕愈病 death pillow to heal sickness **	1
	Shizhen 屍診 corpse examination	1
Jian 11	*Reru xueshi* 熱入血室 heat entering the blood chamber	1
	Daixia 帶下 vaginal discharge	1
	Chuanhou 產後 postpartum haemorrhage	5
Juan 12	*Manjing* 慢驚 chronic infantile convulsion	1
	Futong 腹痛 abdominal pain	1
	Kochuang 口瘡 mouth ulcers	1
	Zhenchuang 疹瘡 rash	1
	Zhongdu 中毒 poisoning	4

** A perhaps more telling translation would be 'cook the dead person's pillow and eat it to treat the illness.' This treatment was noted in the Taiping Guangji 太平廣記 (Extensive Records of the Taiping Era); recommended for some women's illnesses, based on the notion that a ghost spirit was the cause of the problem, and the *qi* of the dead person [from the pillow] would scare the ghost away. The medical literature of China integrated magical and exorcistic practices in various ways, with drug recipes being one of them. I am indebted to Dr. Zhou Xun for sharing her insights on the topic. Further discussion of magical, demonic and ghostly understandings in Chinese medicine can be found in Harper, 1998, pp.148–183, Kalinowski, 2005, in Lo and Cullen (eds), p.126, Li, 2009, in Lagerwey and Kalinowski, (eds), pp.1103–1150, Salguero, 2014, pp.25–26, and Unschuld, 1985, pp.217–223, among others.

As noted above, in some categories questions of the biological nature and functionality of the tongue was at issue, over and above any further usefulness tongue appearance might provide in assessing disease. Debility and impediment of the tongue itself could be a primary reason to consult a physician.

The following two examples illustrate this sort of attention to the tongue.

…婦人本舌腫其舌滿口諸藥不效令以緋針砭之… .[60]

A woman whose tongue was so swollen at the root that it filled the mouth and no medicine had any efficacy… . It was therefore necessary to drain it with a needle at the back… .

…州人舌腫脹舒出口… .[61]

A man from Zhou had a tongue that was swollen and flaccid and stretched out of his mouth… .

In both of the above cases, the physician's primary interest in the tongue concerns its compromised state.

Medicine, 2002. As is apparent, this results in a mixture of modern biomedical terminology and traditional medicine terminology since, where the traditional terms continue to be commonly used I have kept them, as for example in the category 'heat entering the blood chamber'.

60 Jiang [1552] 1994, p.268.

61 Jiang [1552] 1994, p.269.

There are also case records in which the tongue's significance for the physician lies in its relationship to the traditions of correspondence, in evidence since the Han, and not in qualities associated with *shanghan* disease progression as described in the *Jinjing lu*. While Ming physicians were looking at tongues with increasing frequency, they were not necessarily yet doing so in a way that demonstrated a new system of diagnosis.

In the following two examples, we see that Xue Ji diagnoses with traditional Five Phase correspondence theory.[62] In the first, he explains that the wood Phase, associated with the Liver, is exerting damaging influence over the earth, associated with the Spleen. In this case, the tongue is significant only in that it is a site of the malady, having become stiff at the root. The treatment addresses the Five Phase imbalance, as Xue chooses a recipe that was designed to tonify the Spleen. The addition of peony, said to enter[63] both the Liver and the Spleen, and bupleurum, which enters the Liver and also has a dispersing quality, is designed to enhance the required harmonization between the Liver/wood and the Spleen/earth.

> 薛已治一婦人善怒舌本強手臂麻. 薛曰舌本屬土被木剋制故耳. 用六君加柴胡芍藥治之.一男子舌下牽强,手大指大腸經次指不仁,或大便秘結,或皮膚赤,暈. 薛曰大腸之脉散舌下此大腸血虛,風熱,當用逍遥散加槐角秦艽治之.[64]

> Xue Ji treated a woman who easily became angry. The root of her tongue was stiff and her arms were numb. Xue said 'the tongue's root corresponds with earth which is overcome by wood, and this is what is happening. Use *liu jun zi* 六君 子 (six gentlemen decoction) add *Chai Hu* 柴胡 (bupleurum), *Shao Yao* 芍藥 (peony) to treat it.[65]

---

62 As discussed earlier, the organs of the body are associated with the five phases, which exert a nurturing or deleterious influence on each other. In the first case, noted here, Xue Ji uses a five phase diagnostic pattern. In this, the wood element, which is associated physically with the function of tendons, ligaments and the even spreading of the blood throughout the body, and emotionally with anger, is in an inappropriately excessive state. Manifestations of problems with the physical function is the tight and stiff tongue and the numb arms, while the emotional problem manifests in the stated anger. According to the theory of correspondence, excess in wood is a common cause of damage in earth. Associating the stiff root of the tongue with earth situates the tongue's debility within the cycle of the transformations among the elements. The second case does not explicitly reference five phase knowledge, but focuses on the propensity of blood deficiency to generate wind heat. However, this case also notes stiffness in the tongue, which we have already seen is problematic with excessive wood energy. The prescribed recipe is designed to spread the Liver *qi* and strengthen the Spleen. The added drugs, *Huai Jiao* and *Qin Jiao* both enter the Liver and have cooling qualities.

63 During the Song dynasty a pharmacology relating to traditions of correspondence was maturing. Zhang Yuansu 張元素 aka Zhang Jiegu 張潔古 (*c*.1151–1234) authored the *Zhenzhu nang* 珍珠囊 (Pouch of Pearls) in which he described the properties of individual drugs. His innovation was to introduce along with these properties, the concept that each drug could 'enter' a channel relating to a specific organ.

64 Xue [1573?] 1986, p.6.

65 The textual source of both of Xue Ji's prescriptions is the *Taiping huimin heji jufang* 太平惠民和劑局方 (Formulary of the Pharmacy Service for Benefiting the People in the Taiping Era) (1107). *Liu jun zi* is composed of ginseng, attractylodes, poria, toasted licorice, tangerine peel and pinellia. It is designed to strengthen the Spleen, which is associated in Five Phase theory with earth. The addition of bupleurum, characterised by its ability to relieve constrained Liver *Qi* and peony, associated with the tonification of Liver Blood and *yin,* allows the formula to also address the issues of the Liver, associated with wood.

In the case below, we see physician Xue associating an area of the tongue with the trajectory of a channel. The correspondences between the underside of the tongue, the index finger and the Large Intestine are noted. He then moves on to a diagnosis of blood deficiency engendering wind heat, which causes this patient's constipation, red skin and dizziness. Again, the tongue is observed, and is relevant to the illness in terms of its correspondence with the channel system. But it is not described as having relevance to the further ailments cited, such as blood deficiency and wind heat. The tongue here does not yet have overall diagnostic importance.

> A man's tongue, underneath, was tight and stiff. His first and second fingers were numb. The hand's first finger is on the large intestine channel. The next had no feeling. He had constipation, red skin, and may feel dizzy. Xue said the large intestine channel spreads out under the tongue. It is because the Large Intestine blood is deficient that there is wind heat. It is appropriate to use *xiao yao san* 逍遙散 (Rambling Powder) adding *huai jiao* 槐角 (sophora fruit) and *qin jiao* 秦艽 (gentian root) to treat it.[66]

As pointed out earlier, tongue references in the disease category of *yin* 喑 (inability to speak, or muteness) also lack great diagnostic significance, as physicians might reasonably check the physical state of the tongue simply to determine its ability to fulfil its role in the production of speech.

Setting aside for the moment the numerous references to the tongue in cases describing that organ's debility or functionality, it becomes reasonable to surmise that with 20 mentions of the tongue in the category of *shanghan,* we are beginning to see that tongue observation has the greatest diagnostic relevance to this particular disease category. This is not unexpected since, as we've seen, Du Qingbi's illustrated tongue text was entitled *Shanghan jinjing lu*, and it married particular tongue presentations to particular *shanghan* stages of illness, and indeed, to particular drug recipes.[67] However, it simply positioned tongue appearance's use as a contributing indicator of *shanghan* disease, and a symptom of the fluctuating balance between *yin* and *yang* patterns during the disease's progression. While the *Jinjing lu* offers a nascent organising concept for visualising tongue presentation as a diagnostic tool, it is not yet a complete diagnostic framework keyed to the tongue in its own right.

---

66 *Xiao yao san* is composed of bupleurum, angelica, peony, attratylodis, poria, and toasted licorice. It is used to spread the liver Qi, strengthen the Spleen, and nourish blood. *Huai jiao* and *qin jiao* are both energetically cold herbals and characterised by the ability to moisten the intestines, while the first also is used to soothe the sinews. The addition of these herbs allows the formula to address any heat or dryness in the intestines, as well as soothe the sinews and numbness in the extremeties.

67 The *Shanghan lun* organises itself in a six channel framework, but also in a recipe presentation framework. In other words, there are, for instance, *Gui Zhi Tang* 桂枝湯 (Cinnamon Twig Decoction) presentations that signal particular constellations of symptoms. A common turn of phrase in the text is that a particular recipe 'governs' certain presentations. Likewise, in the *Jinjing lu*, tongue presentations and recipes intertwine, to the extent that a *xiao chai hu tang* 小柴胡湯 (Minor Bupleurum Decoction) tongue would signify a tongue with a thin white coat.

Thus, the *Mingyi lei'an* provides a record which proves that tongue inspection had, certainly by the Ming, become an unexceptional behaviour on the part of some physicians but remained a relatively minor aspect of clinical recordkeeping. Observation of the tongue was not yet a comprehensively useful or routine diagnostic practice.

Xu Mingyi Lei'an

When we look at the Qing encyclopaedia of case records, the *Xu mingyi lei'an* 續名醫類案 (Supplement to Classified Case Records by Eminent Physicians), the picture presented regarding the tongue suggests there is a change afoot.

To begin with, the compilation is three times larger than its Ming precursor, as it contains 36 *juan,* in which there are 347 disease categories or subsections. We could reasonably expect this fact alone to permit a greater number of tongue references in the case records. Secondly, the publication and wider distribution of the *Jinjing lu* which had already occurred by the time the *Xu mingyi lei'an* was compiled,[68] would have made greater numbers of physicians aware of the tongue text, and allowed the inspection of the tongue to become a more commonly considered diagnostic possibility than it had been previously.

But I will argue that there is a third and vital reason for this rise in frequency of recorded tongue observations. The discourse around *shanghan* and *wenbing* theories of the causation and treatment of illness was flourishing at the time of the *Xu mingyi lei'an's* publication and arguably contributed greatly to the revised categorisations of diseases within its various *juan*. Specifically, we see that the Qing categories of *wenbing* 溫病 (warm pathogen illness) and *rebing* 熱病 (heat pathogen illness) did not exist in the Ming encyclopaedia. Additionally, in the Ming text, the category of *wenyi* 溫疫 (warm epidemic) followed that of *shanghan*. The placement allows the category to be amenable to the notion, present since the Han, of a lurking cold damage pathogen emerging in a warm season. The Qing text, however, simplifies the category to *yi* 疫 (epidemic), which is textually separated from the category of *shanghan* by 3 *juan* and eleven disease categories. The difference in both name and placement underscores the loosening of the ties between the constellation of *shanghan* illness and epidemic disease, which was increasingly seen as a discrete entity. This new category of epidemic disease included cases from Ye Tianshi, who was by then, as a proponent of *wenbing* theory, well known as a physician who made the distinction between *shanghan* and *wenbing* illnesses.

By the Qing dynasty, dissatisfaction with the effectiveness of *shanghan* theory was growing. Wu Youxing had strenuously articulated this after experiencing the epidemics, described in Chapter 2, in June and July of 1641.

---

68 Its inclusion in Xue Ji's case records published in 1529 and in Wang Kentang's 1604 text has been described earlier.

> During the initial onset, fashionable practitioners erroneously used Cold Damage methods to treat the disorder. I never saw a case of theirs that did not get worse. Some patients and their families mistakenly heeded the claims that by the seventh or fourteenth day it would heal itself.[69] Because of this they were not treated. Some died from not being treated in time, or not taking the medicine in time. Others wrongly took drastic formulas, and by not following the normal sequence for attacking and then replenishing, died.[70]

What we see in the Qing encyclopaedia is that recorded observations of tongues in the case records cluster dramatically in the disease categories concerned with issues of warmth and heat. In other words, febrile illness provokes the greatest incidences of inspection of the tongue.

Table 6 Distribution of Tongue Mentions among the 36 *Juan* of the *Xu mingyi lei'an*

Juan	**Categories contained within *juan***	**Categories containing no tongues**	**Categories containing 1–3 tongues**	**Categories containing 4–11 tongues**	**Categories containing 12+ tongues**	**Total categories containing tongues**
Juan 1	1	0	0	0	1	1
Juan 2	3	1	1	1	0	2
Juan 3	4	2	1	0	1	2
Juan 4	4	0	2	0	2	4
Juan 5	3	0	1	1	1	3
Juan 6	6	4	1	1	0	2
Juan 7	2	0	1	1	0	2
Juan 8	3	1	1	1	0	2
Juan 9	4	4	0	0	0	0
Juan 10	4	1	2	1	0	3
Juan 11	2	1	1	0	0	1
Juan 12	4	1	2	1	0	3
Juan 13	4	0	3	1	0	4
Juan 14	5	2	3	0	0	3
Juan 15	2	1	1	0	0	1
Juan 16	6	4	1	1	0	2
Juan 17	7	5	1	0	1	2
Juan 18	5	0	1	2	2	5
Juan 19	6	5	1	0	0	1
Juan 20	7	7	0	0	0	0
Juan 21	7	5	2	0	0	2
Juan 22	11	7	2	2	0	4
Juan 23	6	3	2	1	0	3

69 This passage echoes *juan* 31 of the *Suwen*, which, having chronicled 6 days' progression of a heat disease, states '… on the seventh day, the disease in the great *yang* weakens…' as well as line 8 of the *Shanghan lun* where we read 'When in greater *yang* disease a headache lasts for more than seven days, [and then the patient] spontaneously recovers, this is because the evil has gone right through the channel.' Translations from Unschuld, 2011, p.195, and Mitchell *et al.*, 1999, p.54.

70 Translation in Hanson, 2011, p.91.

Table 6 cont. Distribution of Tongue Mentions among the 36 *Juan* of the *Xu mingyi lei'an*

Juan	Categories contained within *juan*	Categories containing no tongues	Categories containing 1–3 tongues	Categories containing 4–11 tongues	Categories containing 12+ tongues	Total categories containing tongues
Juan 24	30	21	7	2	0	9
Juan 25	37	29	6	2	0	8
Juan 26	7	5	1	1	0	2
Juan 27	50	36	13	1	0	14
Juan 28	15	8	5	1	1	7
Juan 29	11	7	3	1	0	4
Juan 30	24	23	1	0	0	1
Juan 31	12	10	2	0	0	2
Juan 32	4	1	2	1	0	3
Juan 33	13	11	2	0	0	2
Juan 34	6	4	2	0	0	2
Juan 35	12	9	3	0	0	3
Juan 36	20	16	4	0	0	4

This compilation contains 113 categories of illness in which the appearance of the tongue is recorded. Out of the 347 total categories, we now see that very nearly 33% of the categories include tongue observation.[71]

Table 7 Chart of Tongue Distribution According to Disease Categories in the *Xu Mingyi Lei'an*

Juan	Disease category in which the appearance of the tongue is mentioned	Number of tongue mentions in category
Juan 1	*Shanghan* 傷寒 (cold damage)	37
Juan 2	*Zhonghan* 中寒 (cold in the middle)[burner] *Zhongfeng* 中風 (wind in the middle)	1 11
Juan 3	*Jing* 痙 (convulsions) *Wenbing* 溫病 (warm disease,)	1 42
Juan 4	*Shangfeng* 傷風 (wind cold) *Shu* 暑 (summer heat) *Shi* 濕 (dampness) *Rebing* 熱病 (heat disease)	1 13 3 17
Juan 5	*Yi* 疫 (epidemic illness) *Zao* 燥 (dryness) *Huo* 火 (fire)	47 2 6
Juan 6	*Zhang* 瘴 (miasma) *Outu* 嘔吐 (vomiting)	2 6
Juan 7	*Xiexie* 泄瀉 (loose bowels) *Nüe* 瘧 (malaria)	1 9
Juan 8	*Li* 痢 (dysentery) *Nüeyao* 瘧痢 (malarial dysentery)	6 1

71 While I offer percentages of tongue appearance in overall disease categories for the two encyclopaedic texts, to say this is a blunt measurement would be to flatter the figures' rigour. I am simply demonstrating that there was an increasing amount of 'ink' given to recording tongue appearance by the mid-Qing, and that the categories of disease which included tongue observation had risen in number, as had the occurrences within them.

Table 7 cont. Chart of Tongue Distribution According to Disease Categories in the *Xu Mingyi Lei'an*

Juan	**Disease category in which the appearance of the tongue is mentioned**	**Number of tongue mentions in category**
Juan 9	*Yinshi shang* 飲食傷 (cold food and drink) *Xiao* 消 (wasting) *Huangdan* 黃疸 (jaundice)	6 1 2
Juan 10	*Pi* 痞 (epigastric fullness) *Yuzheng* 鬱症 (melancholic illness) *Neihan* 內寒 (internal cold)	3 1 6
Juan 11	*Xusun* 虛損 (damage from deficiency)	1
Juan 12	*Tuxue* 吐血 (spitting of blood) *Nuxue* 衄血 (nosebleed)	8 3
Juan 13	*Tanhuan* 癱瘓 (numbness in limbs) *Wei* 痿 (paralysis) *Tongbi* 痛痹 (painful arthralgia) *Zhongzhan* 種脹 (oedema)	1 3 1 5
Juan 14	*Ge* 膈 (diaphragm) *Chuan* 喘 (panting) *Eni* 呃逆 (hiccups)	2 2 3
Juan 15	*Han* 汗 (sweating)	2
Juan 16	*Tan* 痰 (phlegm) *Mian* 面 (face)	7 1
Juan 17	*Ko* 口 (mouth) *Chi* 齒 (teeth)	18 1
Juan 18	*She* 舌 (tongue) *Yanhou* 咽喉 (sore throat) *Yin* 瘖 (unable to speak) *Xinwei tong* 心胃痛 (Heart and Stomach pain) *Xietong* 脇痛 (pain in hypochondriac area)	47 13 6 1 4
Juan 19	*Qianyin* 前陰 (external genitalia and urethra)	1
Juan 20	– tongues are not mentioned –	0
Juan 21	*Jingji* 驚悸 (palpitations with fear) *Xian* 痫 (epilepsy)	1 1
Juan 22	*Zhuchong* 諸蟲 (worms) *Danshi du* 丹石毒 (erysipalis) *Xiesui* 邪祟 (evil spirits) *Zhenjiu cibian* 針灸刺砭 (acupuncture and moxabustion)	1 4 4 1
Juan 23	*Jingshui* 經水 (menstrual discharge) *Benglou* 崩漏 (excessive uterine bleeding occurring outside normal period) *Daixia* 帶下 (leukhorria)	6 1 1
Juan 24	*Zixuan* 子懸 (gravid oppression） *Taisi* 胎死 (dead foetus) *Yitai* 異胎 (abnormal foetus) *Shanghan* 傷寒 (cold damage) *Mijie* 秘結 (constipation) *Xiali* 下痢 (dysentery) *Xiaxue* 下血 (bloody stool)	6 5 1 1 1 3 1

Table 7 cont. Chart of Tongue Distribution According to Disease Categories in the *Xu Mingyi Lei'an*

Juan	**Disease category in which the appearance of the tongue is mentioned**	**Number of tongue mentions in category**
Juan 25	*Channan* 產難 (difficult childbirth)	1
	Xuexu 血虛 (blood deficiency)	3
	Ganzheng 感症 (influenza, or cold)	2
	Huore 火熱 (fire heat)	3
	Xiali 下痢 (dysentery)	1
	Yunchan dou 孕產痘 (pregnancy pox)	3
	Jing 痙 (convulsions)	4
	Yin 瘖(inability to speak)	4
Juan 26	*Xiaoer dou* 小兒痘 (childhood pox)	1
	Dou 痘 (smallpox)	8
Juan 27	*Xiaodu* 梟毒 (aggressive poison)	1
	Xuere 血熱 (blood heat)	2
	Zhure 諸熱 (any heat)	2
	Ke 渴 (thirst)	2
	Yang 癢 (itching)	1
	Jiaban 夾斑 [measles] rash slow to emerge	2
	Shixue 失血 (blood loss)	1
	Outou yue 嘔吐噦 (vomiting)	2
	Yili 疫癘 (plague)	1
	Yantong 咽痛 (painful swallowing)	1
	Yin 瘖 (inability to speak)	4
	Yaotong 腰痛 (pain around waist)	2
Juan 28	*Cuzhen* 瘖疹 (measles rash)	3
	Chusheng 初生 (newborn)	4
	Rubing 乳病 (breast disease)	1
	Houshe zhiyi 喉舌滯頤 (infant excessive drooling)	12
	Yin 瘖 (inability to speak)	2
	Shu 暑 (summer heat)	1
	Hanshi 寒食 (cold food and drink)	1
Juan 29	*Jingfeng* 驚風 (infantile convulsions)	5
	Manjing 慢驚 (chronic infantile convulsions)	2
	Fare 發熱 (fever)	2
	Nüe 瘧 (malaria – intermittent fever)	1
Juan 30	*Tiku* 啼哭 (wailing)	1
Juan 31	*Naoju* 腦疽 (carbuncle on the nape)	1
	Xiongyong 胸癰 (breast abscess)	1
Juan 32	*Fabei* 發背 (carbuncle on the back)	5
	Feiyong 肺癰; *feiwei* 肺痿 (lung abscess or insufficiency)	2
	Yaoju 腰疽 (lower back or waist inflammation)	1
Juan 33	*Xuanyong* 懸痈 (uvular abscess)	1
	Fugu ju 附骨疽 (lateral suppurative osteomyelitis)	1
Juan 34	*You* 疣 (*fuying* 附癭) (swelling; a goitre)	2
	Luoli 瘰癧 (scrophula)	1
Juan 35	*Geda* 疙瘩 (swelling or lump on the skin)	1
	Lifeng 癘風 (leprosy)	1
	meichuang Meichuang 梅瘡 (plum sores)	3
Juan 36	*Tianpao chuang* 天皰瘡 (pemphigus)	1
	*Qixu yongzhong*氣虛壅腫 (qi deficiency with swelling obstructions)	1
	Zhumu cishang 竹木刺傷 (bamboo and wood stabbing injury)	1
	Poshang feng 破傷風 (tetanus)	1

As the above table displays, in the *Xu mingyi lei'an,* the appearance of the tongue was documented by physicians in their case records in a greater number and variety of diseases categories than had been seen in the earlier *Mingyi lei'an*. By far and away, the three categories holding the greatest number of tongue references, other than that of the tongue category itself[72] are those of *yi* 疫 (epidemic illness) with 47 tongue mentions, *wenbing* 溫病 (warm pathogen illness) with 42, and *shanghan* 傷寒 (cold damage) with 37 mentions of the tongue. The only other categories with above average numbers of tongue mentions are *rebing* 熱病 (heat disease) with 17 tongues, *shu* 暑 (summer heat) and *yanhou* 咽喉 (sore throat), both with 13 tongues. In each of these categories there is the possibility of febrile presentation as an associated symptom.

This distribution of tongue mentions in the *Xu mingyi lei'an* supports my argument that by the Qing dynasty, physicians made most use of tongue inspection when dealing with diseases in which heat played a significant role.

Heat dries moisture, and in a febrile illness the moisture of the body undergoes increasing depletion as a fever rises. This depletion led to the documentation of symptoms such as a dry or sore throat, thirst, agitation, body heat, constipation and reduced urinary output. The organ of the body that is moist in a healthy state as well as easily observable is the tongue. I argue that Qing physicians were able to connect developing theories regarding the incremental and locational presence of heat[73] in the body with the changing appearance of the tongue. In the next section of this chapter, we will see Ye Tianshi and Wu Jutong make just such connections in their case records.

Section iii: It's all about heat

While the *Jinjing lu* of 1341 was the first text devoted specifically to diagnosis through the appearance of the tongue, its primary vision was to treat *shanghan* disease. However, there were hints already in the text that *shanghan* would not remain the only lens through which physicians looked at tongue appearance. Most drug recipes in the *Jinjing lu* can be found in the *Shanghan lun*, but there were also a scattering of recipes from later Song and Jin-Yuan dynasty formularies.[74] We saw in Chapter 2 that medical treatment and theory were reimagined in China by the innovative Jin-Yuan physicians and their postulations about the significance of heat in the body. Liu Wansu 劉完素 (1110–?), one of the four masters of

72 The mitigating aspects connected to tongue numbers in this category is discussed above. These apply as well to the categories of *yin* 喑 (inability to speak) and *ko* 口(mouth), both of which have above average numbers of tongue mentions.

73 I refer here to the use of the *sanjiao* 三焦 or three burners and the *Si Fen* 四分 or four stages models of diagnosing heat in the body, both of which will be discussed in further detail in the next section of this chapter.

74 The drug recipes of the *Jinjing lu* are discussed in Chapter 3.

the era, hypothesized that fire was the principle pathogenic agent, acting as the root cause of illnesses even where the stated cause might be attributed to cold, dampness, wind and dryness. His disciple Zhu Zhenheng 朱震亨 (1281–1358) cautioned against dangers inherent in the internal development of heat in the body and advocated the nourishment of *yin* to counteract this. Written in 1642 at the very end of the Ming dynasty, Wu Youxing's 吳有性 (1582?–1652) work on febrile epidemic disorders, *Wenyi lun* 瘟疫論 (Treatise on Febrile Epidemics), was the first treatise to specifically discuss the causation of epidemics since the Han appearance of Zhang Zhongjing's *Shanghan lun*. Wu theorised that *liqi* 癘氣 (pestilential *qi*) could enter the human body by way of the nose and mouth, and was transmissible from person to person.

> Wu Youxing's *Treatise on Febrile Epidemics* articulated even more clearly the themes of poison, pathogenic local *qi*, and person-to-person transmission developed in earlier writings on southern diseases… . He applied them to the epidemics that in 1641 were then ravaging North and Central China and passing through his own village on the sourthern shores of Lake Tai near Suzhou. [75]

Wu's treatise offered crucial differences in the understanding of disease causation from that found in the *Shanghan lun*. Specifically, he maintained that epidemics could be caused by evil *qi* in the environment. In contrast to Zhang Zhongjing's reasoning, he did not believe that either unseasonable climatic *qi* or an initial exposure to cold were necessary to cause epidemic disease. Consequently, although both *shanghan* and *wenyi* disease frequently presented with symptoms that were very similar, the causes, methods of contraction and treatments required, were very different. The distinctions he made between *shanghan* and *wenyi* are illustrated in the following chart.

Table 8 Wu Youxing's Distinctions between *Shanghan* and *Wenyi*

***Shanghan* 傷寒 Cold Damage**	***Wenyi* 瘟疫 Febrile Epidemics**
Not transmissible from person to person	Transmissible from person to person
Enters the body through the skin	Enters the body through the nose and mouth
Manifestation of symptoms of *shanghan* occur not long after exposure to cold	Symptoms of the disease can take some time to manifest after exposure to pathogen
Inducing sweat is an appropriate treatment strategy	Sweating must not be induced. Cooling is appropriate.
The appearance of a rash is a dangerous symptom of an increasingly serious illness.	The appearance of a rash signifies that internal heat and toxins are being released.
Follows exposure to cold, wind, or wetness, then an aversion to cold develops, often with shivering, head and body aches and eventually, fever.	No perceivable external cause, but a general feeling of weakness or faintness with fever and no aversion to cold.
Need not be widespread	Always widespread

75 Hanson, 2011, p.90.

It is of interest to this dissertation that Dai Tianzhang 戴天章 (*fl.* 1675–95), the author of *Guang wenyi lun* 廣瘟疫論,[76] 1695 (Expanded Treatise on Febrile Epidemics) provided a list of diagnostic criteria needed to distinguish *wenyi* 溫疫 (febrile epidemics) from *shanghan*. The list included the quality of the patient's Qi, their complexion, *tongue*,[77] disposition and pulse.[78] The inclusion of tongue appearance would be expected in a list of diagnostic features of *shanghan* disease, as by this time, the *Jinjing lu* with its focus on *shanghan* diagnosis and treatment had been twice appended to widely circulated medical texts.[79] But it is of greater interest to this dissertation that by the early years of the Qing dynasty, tongue appearance featured as a diagnostic criterion of a disease category known as *wenyi* 瘟疫 (febrile epidemic disease). Scholar physicians continued to be engaged in deliberations and disputes over the primacy of *shanghan* or *wenbing* 溫病 [80] and the particularities of each. The new *wenbing* theory was alternately praised, marginalised, and sometimes outright dismissed.[81] *Wenbing* did of course eventually gain recognition as a fundamental concept of disease causation and treatment, and it seems clear that appearance of the tongue was an aspect of its diagnostic repertoire from the beginning.

From Shared Beginnings to Separate Categories

Shanghan and *wenbing* evolved over time into distinct theoretical frameworks, but they entered medical practice as aspects of a unity.

Zhang Zhongjing's *Shanghan lun* presented the importance of noting the changing symptoms that accompanied disease progression. As described in Chapter 2, symptoms were charted through the stages of the six channels, sometimes progressing in a predictable and ordered fashion, but sometimes not. Zhang used the rubric *shanghan*, or cold damage, to gather quite a melange of symptoms into disease patterns that could be understood in terms of severity and danger to the patient. He also mentioned a category of illness that he termed *wenbing*. In line 3 of the *Shanghan lun* we read,

太陽病或已發熱或未發熱必惡寒體痛嘔逆脉陰陽俱緊者名為傷寒。

start fn 76 with Dai [1675] 1992. Then follow with rest of fn.

76 Dai's work is a revision of Wu Youxing's *Wenyi lun.* Several physicians edited and annotated Wu's treatise. For an interesting comparison of the revisions of Wu's work undertaken by physicians in the Qing, see Hanson, 2011, pp.112–118. Dai is also discussed in Liu, 2005, p.16.

77 Italics mine.

78 Hanson, 2011, p.113.

79 I refer here to the texts authored by Xue Ji and Wang Kentang, as discussed above.

80 It is important to note the difference between two characters, both rendered into *pinyin* as '*wen*'. In *wenbing*溫病 (warm disease) we see that the water radical is used, while in *wenyi* 瘟疫(febrile epidemic) the sickness radical is used. *Wen* 溫 appearing alone is defined as warm, while *wen* 瘟appearing alone is defined as epidemic, or pestilence. Matthews, 1943, pp.1057–1058. In both cases, heat of some sort is conveyed, but the character with the sickness radical suggests a greater severity. In clinical use, however, the seriousness of a *wenbing* 溫病 illness may be, but is not necessarily, mild. Both *wenbing* and *wenyi* result from a reworking of *shanghan* theories of disease.

81 Chao, 2009, p.80–104 and Hanson, 2011, pp.112–121.

> In *taiyang* disease, whether there is heat effusion or not, as long as there is aversion to cold, a painful body, vomiting, and the *yin* and *yang* of the pulses are tight, this is called *shanghan.*[82]

Line 6 states

> 太陽病發熱而渴不惡寒者為溫病。
>
> In *taiyang* disease, when there is fever and thirst, without aversion to cold, this is *wenbing.*[83]

But despite having specified a type of *taiyang* disease known as *wenbing*, Zhang did not extricate it from beneath the umbrella of *shanghan*. It remained, essentially, a sub-category of *shanghan*.

Yüan-ling Chao maintains that the eventual bifurcation of disease theory and treatment into *shaoyang* and *wenbing* owed a great deal to those physicians labelled hereditary. As she describes it:

> These physicians attempted to bring to the forefront the importance of *wenbing*, and their widespread experience undoubtedly aided in the accumulation of practical experience and knowledge which provided the basis for the development of their theories.[84]

Without doubt, the provision of treatment during outbreaks of epidemic disease provided a sphere of learning for physicians quite beyond the detailed study of classical texts. As we saw earlier, the devastation wrought on his family is credited with propelling Zhang Zhongjing to write the *Shanghan lun.* The epidemics that swept through China in the 1580s and the 1630s and 1640s also had a marked impact on the physician Wu Youxing who wrote the ground breaking *Wenyi lun*. *Wenyi lun* formalised the concept of the transmission of disease from person to person, and from the atmosphere to the person through the mouth and nose.

Table 9 Epidemic Frequencies during the Ming and Qing Dynasty[85]

Dynasty	Number of years with epidemics	Number of years with severe epidemics	Ratio of number of epidemics to years
Ming (1368–1644)	156	90	1–1.77
Qing (1644–1911	217	114	1–1.23

The benefits accruing to a scholar physician who was also a member of a family lineage of physicians were two pronged. Along with the ability to study classical medical texts, such a physician would have access to an oral history transmitted across generations. Literate members of lineages could create written records of successes and failures of recipes and treatments, but the oral embellishments of treatment stories could enhance what text alone

82 Zhang [*c.*206] 1991, p.48.
83 Zhang [c.206] 1991, p.49.
84 Chao, 2009, p.91.
85 Figures provided by Zeng Yi 曾毅, 北京工業大學 (Beijing University of Technology).

could provide. The epidemics that swept through China during the Ming dynasty could not have been witnessed by Ye Tianshi, whose case records I will be discussing, but his father and grandfather would have done so. Practicing as he did, in the Qing, epidemic frequency was rising. Ye was a scholar as well as a hereditary physician. The accumulated generational wisdom would have been significant, and might well account for the eclectic and innovative approach we will see in his treatments. His scholarly training would have ensured his familiarity with the classic texts of Chinese medicine, including the *Shanghan lun,* which from the Song dynasty onwards was a much consulted text in the face of epidemic disease.[86] It was also frequently found wanting in effectiveness. On the other hand, the accumulated generational wisdom passed on to him through family lineage would have been significant, and might well account for the eclectic and innovative approach we will see in his treatments

Ye Tianshi 葉天士 (1666–1745)

Ye Tianshi 葉天士, also known as Ye Gui 葉桂, was a third generation physician who is reputed to also have studied the classics. He is included in Arthur Hummel's Eminent Chinese of the Ch'ing Period with the following entry.

> Yeh Kuei[87] received his first medical training from his father and later studied under one of his father's pupils. So eager was he for diversified information that between the ages of twelve and eighteen *sui* 歲 [88] he is said to have had some seventeen tutors. He soon surpassed his tutors in skill and became one of the most respected physicians of his time. … [He] is regarded as a pioneer in the employment of aromatic stimulants for epidemic fevers… .[89]

In this biographical snippet two statements stand out as relevant to this dissertation. One is that Ye is said to be eager for 'diversified information', and the other is that he was a 'pioneer in the employment of aromatic stimulants for epidemic fevers'. Together, they highlight Ye as a physician who was able to combine a wide range of conventional treatment strategies with new and developing approaches to the treatment of febrile illness.

Ye is credited with the development of a diagnostic approach that envisioned epidemic *qi* penetrating a body in four increasingly serious stages, which would affect ever-deeper stages of the body. Called *si fen* 四分 (four stages),[90]namely *wei* 衛 (defense), *qi* 氣 (*qi*),

---

86 Goldschmidt, 2009.

87 Yeh Kuei is Ye Gui rendered in the Wade Giles Romanisation system.

88 *Sui* is the Chinese measurement in years in which an infant is one *sui* at birth, and two *sui* at the following birthday. Thus, twelve to eighteen *sui* would be eleven to seventeen years of age.

89 Hummel, 1943/44, p.902.

90 There are various offerings for the most appropriate translation of *fen*分 in the context of Ye's *sifen* diagnostic approach. Among them are 'four levels', favoured in many western acupuncture courses, 'four aspects', found in the increasingly popular *A Practical Dictionary of Chinese Medicine* by Wiseman and Feng, and 'four sectors', as it is translated by Hanson in *Speaking of Epidemics in Chinese Medicine,* or even 'four divisions', sometimes heard in Chinese medicine seminars. While the term 'four levels' was the most familiar usage in my own training, I have chosen to use Chao Yüan-ling's

ying 營 (construction) and *xue* 血 (blood), these each displayed their particular manifestations, required different therapeutic interventions, and were successively more dangerous to the sufferer. A pathogen, or evil *qi* attacking the body's *wei* would be more easily treated, or indeed fought off by the sufferer unaided, than an attack reaching the body's *qi.* With inappropriate or no treatment, or in a sufferer with weak constitution, a strong evil *qi* would sink ever-deeper into the body, eventually becoming fatal. As with the *Shanghan lun's* theory of disease progression,[91] events would not necessarily progress in a linear fashion. Epidemic illness, for instance, might gradually worsen after first being contracted, or it might strike with deadly intensity at the outset.

Although the concept of these four stages was Ye's own contribution to the diagnosis of *wenbing* illness, he did not rigidly adhere to it. In his case records, he demonstrates a flexible diagnostic attitude. In one case, while agreeing with Wu Youxing's innovative understanding that epidemic *qi* entered the body through the mouth and nose, rather than emerging as a result of seasonal disruption, he ignored Wu's concept of a nine stage progressive transmission,[92] in which each stage presented an occasion for different treatment. Instead, Ye referred to a far earlier model of transmission postulated by Liu Wansu during the Song dynasty, namely the *sanjiao* 三焦 (triple burner) model, as in the following example.[93]

uc for Triple Burner

> ...a Mr. Zhu breathed in the 'epidemic-pestilential-filthy heteropathy' (*yi li hui xie* 疫癘穢邪) through his nose and mouth. It then spread via the Triple *jiao* throughout the center of his chest, causing a sore throat, cinnabar-colored papules, vermilion tongue, and confused spirit [biomedicine's mental confusion].[94]

Ye's ability to adroitly shift his diagnostic stance is one of his outstanding traits as a physician. He was able to make use of the conceptual constructs of both the *shanghan* and *sanjiao* theories of disease transmission, to develop his own *sifen* diagnostic construct, and make the elegant determination that these systems need not be mutually exclusive. Ye was able to engage therapeutically with various imaginings of illness causations and progressions when dealing with the cases before him. Perhaps the greatest contribution made by this student of seventeen different teachers was a demonstration of the importance for a physician to understand a wide range of theory and therapeutic interventions in order to provide the best treatment. Ye's awareness of Han *shanghan* theories, the advances in Song theories of disease

---

'four stages' translation in this dissertation, as I find its suggestion of a disease progression that changes and transforms over time to be useful.

91 *Shanghan* disease progresses in severity from *taiyang* to *jueyin in* a series of six stages, though not necessarily in an ordered fashion, as disease may skip stages or turn back to repeat previous stages.

92 Hanson, 2011, p.94.

93 The *sanjiao* or three burners are considered to be non-substantive yet functional divisions of the body which are envisioned according to location and purpose. The upper *jiao* is said to relate to the area and activities of the Lungs and Heart and deal with respiration. The middle *jiao* then corresponds with the Stomach and Spleen, and deals with the digestive process, while the lower *jiao* is concerned with the function of excretion.

94 Hanson, 2011, p.116.

transmission, the innovations of the Jin-Yuan and Ming masters, all gave him a rich layering of diagnostic information with which to tailor his remedies. These also allowed him to integrate varied diagnostic tools, one of which would have been the inspection of the tongue.

In his *sifen* diagnostic model, worsening stages of febrile illness are monitored. Such intensification of bodily heat produces changes in the moisture, coating and colour of the tongue. As we saw earlier, these changes were noted, if not systematised, as early as the Han when the *Neijing* notes the dry black tongue signalling death. Cheng Wuji's 成無己 *Mingli lun* 明理論 (Discussion on Clarifying Patterns) elaborates on the tongue's changing appearance in illness. Ye's work demonstrated wide-ranging knowledge assures us he would have been aware of the *Jinjing lu* whose illustrations of the tongue documented *shanghan illness* progression. In recording his cases, he reconfigured the categories that would have previously been listed under *shanghan* as he 'believed [they] overgeneralised a wide variety of syndromes marked by symptoms of heat and fever'.[95] We will also see in his records that he monitored changes in the tongue as illness progressed.

Ye Tianshi's case records portray a physician who was able to see the value of all of these transmitted theories, with different emphases rising to prominence in his practice in different situations. In addition to this, the medical lore accumulated by his family over years of repeated epidemic outbreaks was likely to have given him a practical understanding of the effectiveness or futility of particular treatments when presented with febrile illness.

Tongue Inspection in Ye Tianshi's Case Records

The *Linzheng zhinan yi'an* 臨証指南醫案 (Medical Case Records as a Guide to Clinical Practice)(1764), is a large, posthumously published compilation of Ye Tianshi's cases. I have chosen three cases from this collection to illustrate several significant aspects of Ye's use of tongue inspection. Firstly, while this collection shows a preponderance of tongue records in cases that involve heat, the first of the three cases presented below shows that the tongue also held interest in cases involving coldness. The second case selected demonstrates that the appearance of the tongue was deemed a significant enough feature to warrant repeated inspection during the course of an illness, and that on the sole basis of a change in the tongue a drug recipe could be altered. The third case nicely displays the contrast between the visual presentation of heat – a yellow tongue – and the tactile suggestion of the presence of coldness – a slow pulse. But for a clinician of Ye's experience, rather than creating confusion, the terse narrative moves deftly to the understanding that dampness arising from Spleen and Stomach weakness can also slow a pulse. And so, in this instance, it is the ensuing change in the pulse presentation that is noted.

95 Jason Blalack, 2017.

Lastly, and most importantly for the argument of this dissertation, two of these three cases are diagnosed and treated without any reference to the palpation of the pulse, displaying the diagnostic value the appearance of the tongue now held for this physician.

These three case records also illustrate the laconic style for which Ye was noted. The lack of discursive storytelling or detailed descriptions of either patients or illnesses found here contrasts with the literary narratives we saw in the Ming *yi'an* genre.

Ye Tianshi's cases require the reader to have a significant amount of knowledge about medicine and the art of prescribing to understand them.

He sets out the 'method' used in each of these records, which is simply described by declaring the name of a drug recipe. However, the use of a recipe's name is suggestive rather than definitive. By this I mean that an established recipe not only refers to a set collection of individual drugs, but also is known to be useful in addressing certain constellations of symptoms, and in treating certain categories of disease. To understand Ye's treatment methods, an understanding of a recipe's drug selections and their actions becomes essential. Significantly, he was able to alter the ingredients of well-known recipes to best address the needs of the patient before him and the symptoms presented, while remaining true to the original function of the named recipe. [96]

To illustrate this art of prescribing I will give a brief analysis of the refinements Ye made to the set recipe *zhen wu tang*, or True Warrior Decoction, in the first of the three cases presented below.

The set drug list for this recipe includes:

bao fu zi 包附子 (Baked Aconite)

bai zhu 白朮 (Attractylodes Macrocephalae),

fu ling 茯苓 (Poria),

sheng jiang 生薑 (Fresh Ginger)

shao yao 芍藥 (Peony)

The recipe's function is to warm the *yang* and promote urination.

However, as we will see, the drugs Ye records using for this recipe clearly differ. He retains *fu zi, sheng jiang* and *fu ling* all of which will maintain the *yang* warming, water transforming and transportation actions of the recipe.[97] But as the patient's presentation

---

96 I am indebted to Volker Scheid for sharing his insights on Ye Tianshi's prescription and treatment methods, and for a discussion of the elegant refinements in this particular recipe.

97 Both *fu zi* and *fu ling* are first recorded in the *Shennong bencao jing* 神農本草經 (Divine Husbandmans' Classic of the *Materia Medica*) (*c*. Eastern Han, 25–220 CE), while *sheng jiang* is first noted in the *Bencao jingji zhu* 本草經集主(Collection of Commentaries on the Classic of the *Materia Medica*) (Northern Qi, 494). The *Bencao xiangjie* 本草祥節 (Detailed Materia Medica (1681) declares *fu zi* 'restores the primal *yang*' (Min Yue 閩鉞, in Bensky *et al.*, 2005, p.675). *Fu ling* is in the category of drugs that drain dampness, whose main action is to promote water metabolism (利水*li shui*) (Bensky *et al.*, 2004, p.267) and *sheng jiang* is a warming drug, also used to promote sweating (Benskey *et al.*, 2004, pp.30–31.

in the case suggests more stagnation of dampness (manifesting as chest tightness) than a severe oedematous condition, he substitutes the similarly acting but more aromatic[98] *cao guo* (Tsaoko Fruit) and *guang pi* (Tangerine Peel)[99] for *bai zhu*.[100]

Wu mei replaces *bai shao* in the recipe. Both are sour drugs, but *wu mei* (Chinese Plum) is warming while *bai shao* is a bit cold.[101]

This ability to refine recipes to address subtle differences in symptoms for each patient marks out Ye Tianshi as a physician with considerable clinical experience, over and above the abiity to apply information found in medical texts. The case record concerned follows.

〈目錄〉方桉

〈篇名〉真武湯

內容：寒起四末。舌白脘悶。溫其脾陽。

草果仁　製附子　生姜　白茯苓　烏梅肉　廣皮

腰痛如折。腎將憊矣。

枸杞子　肉蓯蓉　附子　生杜仲　穿山甲　鹿茸

高年二氣交衰。水泛嗽逆。腹膨腿浮。[102]

<Contents> Method

<Name> *zhen wu tang* (True Warrior[103] Decoction)

Details: Cold in the four extremities. The tongue is white, the chest is tight.

Warm the Spleen *yang*.

cao guo ren (Tsaoko Fruit Seed), *zhu fu zi* (prepared aconite), *sheng jiang* (Fresh Ginger), *bai fu ling* (White Poria), *wu mei rou* (Mume, or Chinese Plum), *guang pii* (Tangerine Peel).

There is waist pain when bending. The Kidney *qi* is exhausted.

---

98 Aromatic herbs are considered to have the ability to lift the Spleen and transform dampness due to their fragrance.

99 *Guang pi* is an alternative name for *chen pI* (tangerine peel).

100 *Guang pi* is first recorded in the *Shennong bencao jing* 神農本草經 (Divine Husbandmans' Classic of the *Materia Medica*) (*c*. Eastern Han, 25–220 CE). It is both warming and aromatic, and its function is to dry dampness and promote water metabolism. (Bensky *et al.*, 2004, p.726). Cao guo is first recorded in the *Yinshan zhengyao* 飲膳正要 (Proper and Essential Things for the Emperor's Food and Drink) (1330). It is a drug with acrid and warm properties, whose function is to warm and dry dampness. (Bensky *et al.*, p.487). These two drugs replace *bai zhu* , also first recorded in the *Shennong bencao jing* 神農本草經 (Divine Husbandmans' Classic of the *Materia Medica*) with properties that are bitter, sweet and warm. (Bensky *et al.*, 2004, p.726).

101 *Wu mei* was first recorded in the *Shennong bencao jing* 神農本草經 (Divine Husbandmans' Classic of the *Materia Medica*), has sour, astringent and warm properties. (Bensky *et al.*, 2004, p.864) *Bai shao* has sour, astringent and mildly cold properties, and was first recorded in the *Bencao jingji zhu* 本草經集主 (Collection of Commentaries on the Classic of the *Materia Medica*) (Northern Qi, 494). (Bensky, *et al*, 2004, p.754).

102 Ye [c.1746] 2010, pp.53–54.

103 The warrior of this recipe refers to a magical creature, the spirit of the north (*beifang xuanwu* 北方玄武, sometimes referred to as the black tortoise) who can be said to manage the relationship between fire and water. The four directional spirits are found in Chinese mythology. See Bensky *et al.* 2009, p.744.

gou qi zi (Fructus Lyceum), *rou cong rong* (Cistanche), *fu zi* (Aconite), *sheng du zhong* (Fresh Eucommia), *chuan shang jia* (Pangolin Scales), *lu rong* (Cornu Cervi, or Deer Antler).

With age, the two *qi* decline. When the water is not stable, there is counter flow cough. The abdomen is swollen and the legs are weak.

In contrast to the case records of Sun Yikui and Cheng Maoxian seen earlier, this is a case record that provides essential information without any extra spillage of ink. There are no descriptive patient details supplied, other than the mention of diagnostically significant presentations. We learn that this patient has cold hands and feet, a tongue described as white, and tightness in the chest. The directive for treatment is equally succinct: warm the Spleen *yang*. A most intriguing aspect of this particular record for the argument of this dissertation, however, is that there is no mention whatsoever of the patient's pulse.

Here we have an eminent physician diagnosing and prescribing as a result of recording only two symptoms experienced by the patient – coldness in the extremities and tightness in the chest – and the observation of a white tongue. While we might reasonably expect to see a note of the pulse presentation, there is none.

As we've seen earlier, the first widely available version of the *Jinjing lu* appeared in the early 16th century, compliments of Xue Ji, and the inclusion of tongue observation in Ming case records was at best occasional. Here, by contrast, we see that by the Qing period, in the early years of the 18th century, the information gleaned from the appearance of the tongue has become a critical diagnostic feature. In this case record, noting the presentation of the tongue is sufficiently telling to allow Physician Ye to diagnose and prescribe without the necessity of gathering further information from the quality of the pulse.

In another of Ye's cases translated below, we can see that the inspection of the tongue was also not just a once-and-done observation. Rather, he monitors the tongue's changing appearance to assess the clinical condition. In this case, Ye first simply states the type of illness he is treating. Namely, a summer wind attack. Drugs are prescribed. He then, presumably some time later, notes the appearance of the tongue along with additional symptoms, and lists the drugs appropriate to the changes in the case. Later, during what appears to be a progression in the illness, he notes a further change in the tongue, to which he responds with yet another refinement to the drug recipe, and an admonition about diet.

<目錄>方桉

<篇名>小半夏湯

內容：暑風上襲。頭重咳嗽。

絲瓜葉 桑皮 杏仁 飛滑石 橘紅 米仁[104]

舌白。頭脹脘悶渴飲。此暑熱上阻耳。

絲瓜葉 桑皮 杏仁肉 飛滑石 通草 白寇仁

104 A variant name for the more commonly referenced *yi yi ren* 薏苡仁 (Coix Seed).

舌苔濁。宜慎食物。

絲瓜葉 藿香 杏仁 橘白 飛滑石 半夏 濃樸[105] 通草

陰火上亢。齦腐牙痛。[106]

Contents> Method

<name> *xiao ban xia tang* (Minor Pinellia Decoction)[107]

Details: Summer wind attacks upwards. There is heaviness in the head and a cough.

si gua ye (Loofah Leaf), *sang pi* (Mulberry Bark), *xing ren* (Almond Kernel), *fei hua shi* (Talc), *ju hong* (Tangerine Flavedo, red tangerine peel), *mi ren* (Coix Seed).

The tongue is white. The head feels distended and muffled. This type of summer heat obstructs the ears.

si gua ye (Loofah Leaf), *sang pi* (Mulberry Bark), *xing ren rou* (Almond Kernel), *fei hua shi* (Talc), *tong cao* (Tetrapanacis Medulla), *bai kou ren* (White Cardamom Seed).

The tongue coat is turbid and thick. You must be careful about food.

si gua ye (Loofah Leaf), *huo xiang* (Agastache), *xing ren* (Almond Kernel), *ju bai* (Tangerine Albedo, white inner peel), *fei hua shi (*Talc*), ban xia* (Pinellia), *nong po* (Magnolia Bark), *tong cao* (Tetrapanacis Medulla).

The *yin* fire is excessive. The gums are rotten and there is toothache.

In the above case, we see that a white tongue, coupled with a distended and muffled head, suggested a type of summer heat that affected the ears. A drug recipe for treatment was recorded. But in the next clinical note there was no bodily symptom recorded. The only new sign was a tongue coat, now turbid and thick, coupled with a dietary admonition. This suggests that more severe damp or phlegm accumulation, which would in turn impact the ability of the body to digest food properly, has occurred. Consequently, this one noted change, an altered appearance of the tongue, was sufficient to generate the introduction of a new and more aromatic drug, *huo xiang*.

In the third case which follows, Ye first offers both a pulse and tongue presentation. Here, the patient's tongue is yellow. While a white-coated tongue generally indicates internal temperature ranging from normal to cold, a yellow coating to the tongue inevitably indicates an accumulation of heat.[108] It is more common to find an increased pulse rate with internal heat, so it would merit consideration that in this case, the pulse is slow. In a later clinical note, we see that the pulse has indeed become rapid, but there is no new information about the tongue. As we are told, there remained summer heat evil that needed to be

105 A variant name for the more commonly referenced *hou po* 厚朴 (Magnolia Bark).

106 Ye [*c.*1746] 2010, p.101.

107 The source text for *xiao ban xia tang* is Zhang Zhongjing's *Jingui yaolue* (Essentials from the Golden Cabinet).

108 The relationship between the colour of the tongue's coating and temperature can be seen in Cheng Wuji's *Mingli lun* 明理論 (1144) quoted in Chapter 4. Cheng asserts that a cold pathogen first creates a white coating, and that the coating does not become yellow until there is a presence of internal heat.

cleared, we might be able to make the assumption that the tongue coating remained yellow, but the physician's focus here was understandably to note the changed quality of the pulse.

The following is found in lines 767–771.

<目錄>方桉

〈篇名〉桂枝白虎湯

內容：舌黃脈緩。脾胃之氣呆鈍。濕邪未淨。故不飢。

益智　半夏　橘白　濃朴　茯苓　干姜

飲邪作咳。

杏仁　桂枝　生姜　茯苓　炙草　米仁

脈細數。咳嗆脘悶。宜清暑邪。

鮮絲瓜葉　濃朴　桑皮　杏仁　飛淨滑石　橘紅　通草　連翹。[109]

gui zhi bai hu tang (Cinnamon Twig White Tiger Decoction)[110]

Tongue is yellow and the pulse is slow/late. The Spleen and Stomach *qi* is poor. The damp evil has not been cleared. There is no hunger.

yi zhi ren (Alpinia Oxyphyllae), *ban xia* (Pinellia), *ju bai* (White Tangerine), *nong po* (Magnolia Bark), *fu ling* (Poria*), gan jiang* (Dry Ginger).

When drinking, the evil causes coughing.

xing ren (Almond Kernel), *gui zhi* (Cinnamon Twig), *sheng jiang* (Fresh Ginger), *fu ling* (Poria), *zhi [gan] cao* (Toasted Licorice), *mi ren* (Coix Seed)

The pulse is fine and rapid. There is cough and nausea. It is necessary to clear the summer heat evil.

si gua ye (Loofah Leaf), *nong po* (Magnolia Bark), *sang pi* (Mulberry Bark) *xing ren* (Almond Kernel), *fei jing shi gao* (Light and Pure Talc), *ju hong* (Red Tangerine Peel) *tong cao* (Medulla Tetrapanacis), *lian qiao* (Forsythia).

Charlotte Furth writes that Ye Tianshi used cases to demonstrate how superficial similarities in symptoms could mask deep underlying differences in disease patterns.[111] Here, we have an example that he could do the opposite just as well, by showing that diagnostic signs could be misread as signifying the simultaneous presence of heat and cold[112] when the condition was one of interior heat.

While Ye Tianshi is considered to be one of the physicians contributing to the development of *wenbing* understanding, he was known to be quite catholic in theory and practice. The diagnostic *si fen* 四分 (four stage)[113] model is attributed to him, but he also made use

109 Ye [*c.*1746] 2010, p.98.

110 The source text for *Gui Zhi Bai Hu* is Zhang Zhongjing's *Jingui yaolue* (Essentials from the Golden Cabinet).

111 Furth, in Furth, Zeitlin and Hsiung, 2007, p.18.

112 A yellow tongue coating would demonstrate internal heat but the slow pulse would commonly be seen as a sign of interior cold.

113 As we saw earlier in this section, his four stages pattern identification system posited four increasingly serious stages in the progression of a disease, identified as *wei* 衛 (defensive *qi*), *qi* 氣 (*qi*), *ying*

of Liu Wansu's *sanjiao* 三焦 (triple burner) model of diagnosis, as well as the *shanghan* six channel model proposed by Zhang Zhongjing. His diagnostic agility allowed him to use all three models, sometimes interchangeably.[114] It is easy to envisage that such a broad palette of diagnostic theory and observation would create an ideal background for Ye's increased attention to the appearance of the tongue, the state of the teeth, and to skin eruptions in febrile illness.[115]

It is worth noting that the three recipes in the case records discussed here appear in the *shanghan* texts. *Zhen wu tang*,[116] *gui zhi tang* and *bai hu tang*[117] are found in the *Shanghan lun* and *xiao ban xia tang* is in the *Jingui yaolüe* 金匱要略. As we know, the tongue text *Jinjing lu* grew out of the *shanghan* tradition, and contains both *gui zhi tang* and *bai hu tang*.

Wu zhen tang and *ban xia tang*, however, are not included in the *Jinjing lu*. This is significant in that it shows that Ye did not use the tongue text as the 'quick and easy' reference guide it might function as in the practices of inexperienced physicians who would be likely to marry the tongue presentations of the patients before them to a corresponding illustration and recipe in the *Jinjing lu*. Rather, he was able to integrate the information gleaned from the manifestations of the tongue into more complex therapeutic interventions and therefore was able to choose from a wider array of recipes than the more limited selection provided in the *Jinjing lu*. As a physician with wide experience and education Ye had access to a broad array of theoretical models and diagnostic techniques. These gave him the scope to pick and choose among possibilities for treatment, and to develop new theoretical frameworks of his own, as we have seen with his *si fen* model. This breadth of knowledge also gave him the scope to integrate the appearance of the tongue into his diagnostic frameworks.

Ye's use of tongue observation in his case records not only suggests that he found tongue observation useful, but that it was becoming more prevalent in clinical practice generally. When we look at the distribution of tongue references in different disease categories and the predominance of records in the category of febrile illness, these cases also herald the increasingly prominent diagnostic place the tongue was to hold in the development of *wenbing*.

應 (constructive, or nutrient *qi*), and *xue* 血 (blood). These four reflect a worsening progression of the disease, corresponding to an initial stage of a febrile disease, then the second stage in which bodily heat and thirst become more apparent, the third, or climactic stage involving febrile agitation, mental confusion and emerging rashes, and finally the terminal stage in which various forms of haemorrhagic bleeding, coma or convulsion may manifest.

114 Hanson, 2011, p.196, fn.70.

115 Chao, 2009, p.87.

116 Bensky *et al.* 2009.

117 This is a combination of two recipes, *Gui Zhi Tang* and *Bai Hu Tang*, both found the in the *Shanghan lun*.

Tongue Occurrences and Distribution in Ye Tianshi's *Lizheng zhinan yi'an*

The *Linzheng zhinan yi'an* is arranged into 110 categories of illness. I have looked at these records to, first of all, assess whether or not Ye Tianshi used tongue inspection to a significant degree. Secondly, I have searched for disease categories in which tongue observation might be more frequently noted. This signals whether or not the tongue is becoming a particularly prevalent diagnostic indicator in specific types of illness. Thirdly, I sought to determine if the presence of heat was a significant feature of the disease categories in which tongue inspection was more prevalent.

Looking at Ye's cases in this collection statistically, in 52 of the 111 categories, slightly less than half, there is no mention of the tongue. Clearly the tongue has not yet become a staple of diagnosis. However, the argument can be made that in more than half of the cases recorded, the tongue did hold some diagnostic interest for this physician. Looking further at the 59 categories that do mention the tongue, in 52 of them the tongue is noted between 1 and 10 times. The remaining 7 categories are wind strike 中風 (z*hong feng*), warm heat 溫熱 (*wen re*), summer heat 暑 (*shu*), dampness 濕 (*shi)*, fever 瘧 (*nüe*), convulsions 痙痓 (*jing jue*), and dysentery 痢 (*li*). In ascending order of frequency, there are 11 mentions of the tongue under dampness, 12 under convulsions, 13 under dysentery, 19 under summer heat, 22 under wind strike, climbing to 27 for warm heat, and a rather remarkable 43 references to the appearance of the tongue under the category of fever. Four of these seven diseases categories have heat as an integral aspect of their pathology. In the remaining three, heat is not necessarily integral, but it remains a highly likely aspect of the pathology. [118]

Table 10 Disease Categories of the *Linzheng zhinan yi'an* with the most Numerous Tongue References and the Likelihood of Accompanying Bodily Heat

Disease category	Tongue mentions	Presence of heat
Wind strike 中風	22	possible
Warm heat 溫熱	27	definite
Summer heat 暑	19	definite
dampness 濕	11	possible
Fever 瘧	43	definite
convulsions 痙痓	12	possible
dysentery 痢	13	definite

There is no doubt that Ye Tianshi is observing tongues in his practice. It is also clear that some categories have not just more, but significantly more references to the tongue. But

118 To illustrate the statement that some disease categories have 'possible' and not 'definite' heat, dampness is categorized as one of the six [wind, cold, heat, summerheat, damp, dryness] environmental excesses, and while there are qualities of damp identified as damp heat, damp phlegm, damp toxin and summerheat damp, there exists also the quality of cold damp.

most importantly for my argument, the tongue mentions cluster in the categories that deal with heat.

Charlotte Furth points out that:

> …cases come in groups or sets, and though they cannot yield any truly universal principals, the distribution of commonalities and differences in an ongoing set of cases form patterns we can learn from.[119]

Tongues mentioned in this case collection have assorted features that are not strictly diagnostic: their inability to form words properly, their extension or lack of it, the admonition to hold them during convulsions, their ability to taste or the loss of this ability. These are occasional and scattered examples. The pattern that emerges clearly from an investigation of tongues in the *Linzheng zhinan yi'an* has to do with the clustering of tongues in certain disease categories. These categories share the feature of heat, and the particular capability of the tongue to actually display heat is at the root of its growing importance. Heat or fire dries things, and febrile illness causes a drying of the fluids of the body. When a febrile illness becomes increasingly severe or prolonged, the drying aspect also intensifies. The tongue's position and quality as a visible and moist organ is uniquely positioned to reflect this heat, and consequently, to reflect the significance of heat's damage in the body. I contend that as the publication of the *Jinjing lu* brought the significance of tongue appearance to increasing numbers of physicians, it became more and more likely that during episodes of febrile disease, particularly epidemics, tongue presentation would begin to hold increased interest for physicians.

What also becomes apparent in looking at Ye Tianshi's case records is that he looked at tongues with focus and discernment. The tongues are described as having varied colours of coatings including white, yellow, grey and brown. These coatings were sometimes just noted, but sometimes located at specific sites on the tongue, such as the root, the centre, or as a one-sided presentation. The tongues themselves had a palette of reds that would charm an artist. We find *hong* 紅 (red), *guang hong* 廣紅 (bright red), *chi* 赤 (scarlet red), *wei chi* 微赤 (slightly scarlet), *jiang* 絳 (deep crimson red) *fen hong* 粉紅 (pink), *dan hong* 淡紅 (pale red), and *zi* 紫 (purple).

It becomes reasonable to consider that this particular physician, credited with formulating a theory of disease that highlighted escalating heat attacking ever greater depths of the body would be attuned to any evidence of this progression. And the tongue was able to provide just such evidence. His four stage model of diagnosis allowed increasing subtlety in distinguishing the manifestations of different stages of febrile diseases. As we've seen above with the identification of varying hues of reds, the tongue was more than a blunt indicator, and would become a facet of the growing clarification of *wenbing* theory.

---

119 Furth, 2009, p.4.

Wu Jutong 吳鞠通 (1758–1836)

Wu Jutong was a Qing dynasty physician from Jiangsu province and the author of *Wenbing tiaobian* 溫病條辨 (Systematic Analysis of Warm Diseases). There is a thumbnail sketch of his early life and path to medicine in its preface. His student life came to an abrupt halt with the death of his father from a febrile disease, after which a move to Beijing saw him find work in the imperial library on one of the most ambitious collections ever attempted, the *Siku quanshu* 四庫全書 (The Four Treasuries). This was an encyclopaedic collection of Chinese books drawn from four categories of writings: *Jing* 經 (Classics), *Shi* 史 (Histories), Zi 子 (Masters [philosophers]) and *Ji*集 (Collections [from literature]). Wilkinson describes the endeavor.

> More than 350 scholars worked on the reviewing and annotation of over 10,000
>
> Books and manuscripts collected from all over the empire. Of these, the texts of some 3,450 works were copied into what was to become the Imperial Library or the 'Complete library in four branches of literature', (*Siku quanshu* 四庫全書).[120]

For a young scholar setting out to educated himself in medicine, the imperial library would have provided unparalleled access to medical texts. This wide range of medical writings with their varied points of view would have facilitated Wu's reputation for transcending confined currents of medical thought to become an innovative physician.

Marta Hanson tells us that with the publication of *Wenbing tiaobian* 溫斌條辨 (Systematic Analysis of Warm Disease), warm diseases had found their first biographer.[121] The recurring issue of heat, that I argue underlies the development of tongue inspection, is apparent in Wu's writing, and in his preface to the *Wenbing tiaobian* we have his own statement that he was greatly influenced by Wu Youxing's *Wenyi lun,*[122] while Wu Youxing in turn was heavily influenced by Liu Wansu, the first of the *sidajia,* or four great masters, of the Yuan dynasty, who emphasised the role of Fire in the body. Wu agreed with Wu Youxing that febrile disease found entry to the body through the nose and mouth, not through the skin as in *shanghan* and valued Ye Tianshi's development of the *si fen*, or four stages theory of disease progression.[123]

Wu Jutong is known for his use of the *sanjiao* or three burners as a conceptual organising tool to differentiate and track the progression of disease in the body. In his schemata, the Heart and Lung are associated with the Upper Burner (*sanjiao* 三焦), the Spleen and Stomach with the Middle Burner (*zhongjiao* 中焦), and the Kidney and Liver[124] with the

120 Wilkinson, 1990, p.14.
121 Hanson, 2011, p.126.
122 Wu [1798] 1990, pp.15–16.
123 Hanson, 2011, p.130, and Liu, 2005, p.22.
124 As a note of interest, this organ grouping is subject to variation with different physicians at different times, with the Liver sometimes being assigned to the Middle Burner.

Lower Burner (*xiajiao* 下焦). This was not a completely new notion, as it had its antecedents in Liu Wansu's use of the *sanjiao* system to track the ascent of Fire in the body. Wu, however, held that disease begins its attack on the body by way of the Upper Burner as the evil *Qi* is breathed in, and progresses in severity as it moves to the Middle Burner, then the Lower Burner. His drug treatments reflected this progression, as he recommended an adjustment in the quality of treatment style and ingredients as the affected Burner changed.

治上焦如羽, 治中焦如衡, 治下焦如權.[125]

Treat the Upper Burner like a feather, treat the Middle Burner like a balanced scale, treat the Lower Burner like a balance-weight.

The adage 'imitation is the sincerest form of flattery' springs to mind when reading the case records of Ye Tianshi and Wu Jutong. While Ye precedes Wu by nearly a century, their presentation of drug recipes is nearly identical, as the two cases below clearly demonstrate.

We find the following case record in Ye Tianshi's *Linzheng zhinan.*

某十四脘悶, 便溏, 身痛, 舌白, 脈象模糊, 此屬濕熱蘊三焦: 厚朴、廣皮、藿香根、茯苓皮、大豆黃卷、木防己、川通草、苡仁。[126]

Someone 14 years of age, [has] Stomach oppression, unformed stool, a painful body, white [coated] tongue, an indistinct pulse type, these belong to damp heat accumulating in the three Burners:

hou po 厚朴 (magnolia bark)
guang pi 廣皮 (Guangdong tangerine peel)
huo xiang gen 霍香根 (Agastache root)
fu ling pi 茯苓皮 (poria peel)
da dou huang juan 大豆黃卷 (dried soybean sprout)
mu fang ji 木防己 (cocculus root)
chuan tong cao 川通草 (Sichuan rice paper plant pith)
yi ren 苡仁 (coix seeds).

In the terse style we associate with Ye's case records, we find that a person 14 years of age, of undefined gender, presented with loose bowels, body aches, a tongue with a white coating and a pulse presentation that was found to be indistinct. Ye diagnoses this as damp heat accumulating in the three Burners and proceeds to set out an appropriate drug recipe.

Below, we have Wu Jutong's description of a case, found in his *Wenbing tiaobian.*

五十九. 濕鬱三焦, 脘悶, 便溏, 身痛, 舌白, 脈象模糊, 二加減正氣散主之。

Case 59. [When there is] damp stagnation in the three burners, Stomach oppression, unformed stool, painful body, white tongue [coating], the pulse type is indistinct, *er jia jian zheng qi tang* 二加減正氣散 (Second Modification Rectify the Qi Powder) governs.[127]

---

125 Zhejiang Zhongyi Xueyuan 1963, pp.211-212.
126 Ye [1764], 1999, p.153.
127 Wu [1798] 2002, p.678.

He goes on to list the ingredients to this recipe:

huo xiang gen 霍香根 (Agastache Root),
guang pi 廣皮 (Guangdong Tangerine Peel)
hou po 厚朴 (Magnolia Bark),
fu ling pi 茯苓皮 (Poria Peel),
mu fang ji 木防己 (Cocculus Root),
da dou huang juan 大豆黃卷 (Dried Soybean
chuan tong cao 川通草 (Sichuan Rice Paper Plant Pith)
yi yi ren 薏苡仁 (Coix Seeds).

These two pieces of clinical writing leave us in no doubt that Wu Jutong was working with the case records of Ye Tianshi. Wu, not coming from a medical lineage, would have found his 'teachers' in the writings of physicians. The symptoms he lists are the same as those in Ye's case, the diagnosis – damp stagnation rather than simply damp heat – does not really differ as stagnation itself leads to the generation of heat.[128] Both cases provide us with evidence of a white coating on the tongue. The drug recipes contain the same ingredients. Yet there are two slight differences here.

Ye's case describes an individual, a 14-year-old, who presents with the stated symptoms. In Wu's record we are not told about an individual – it is a normative account – and Wu gives the drug recipe a name. Both of these subtle differences change the narrative from a story of what a physician did in response to the presentation of a patient, to a statement of principle regarding the manner in which certain constellations of symptoms are to be treated.

As we saw earlier, case records ranged from self-justificatory as with Chunyu Yi, and self-promotional, as with Sun Yikui and Cheng Maoxian. Records were also pedagogical in that theory and practice are embedded in the stories of the cases enabling readers to see them in normative terms. For Wu Jutong, the case records and treatises he studied performed the role of master teacher. When he sat down to compose his own treatise, he set out to consolidate and systematise a relatively new and somewhat fragmented conceptual system that we know as *wenbing*. His preface tells us that in his studies he paid particular attention to the writings of physicians who articulated theories about febrile illness, Wu Youxing, and Ye Tianshi, and in his commentaries and analyses he refers to Liu Wansu. He is clear about his task, entitling his text the *Wenbing tiaobian* 溫病條辨 (Systematic Analysis of Warm Diseases). And he does not neglect the appearance of the tongue.

Following on from the above case in line 59 of his text, we have the case below.

六十. 穢濕著裏, 舌黃脘悶, 氣機不宣, 久則釀熱, 三加減正氣散主之。

128 The concept of stagnation generating heat can be seen in the *Huangdi neijing suwen* 黃帝內經素問, Unschuld *et al.* pp.58, 301–6. Wu Jutong himself asserts the fact that damp stagnation generates heat in his Case 60, presented below.

> Case 60. Foul damp affects the interior, the tongue [coat] is yellow, the stomach is oppressed, the Qi is constrained and does not circulate. [If this] continues a long time, heat is generated. *San jia jian zheng qi san* 三加減正氣散 (Third Modification Rectify the Qi Powder) governs.

The tongue coating here has become yellow. There is a specific warning that heat will be generated if this situation continues for a length of time, and particularly interesting to this dissertation is the fact that there is absolutely no mention of a pulse quality.

Wu's collection of case records, *Wu Jutong yi'an* 吳鞠通醫案[129] is organised by disease category, of which there are 46. He makes 181 reference to the tongue in this collection, but the categories in which the tongue appearance clusters are telling.

Table 11 Disease Categories of *Wu Jutong yi'an* with most Numerous Tongue References

Disease category	Tongue references
Wenyi 溫疫 (Epidemic Disease)	30
Shuwen 暑溫 (Summer Warmth)	15
Fushu 伏暑 (Latent Summer Heat)	26
Wendu 溫毒 (Warmth Toxin)	10
Nüe 虐 (Intermittent Fever)	12
Shanghan 傷寒 (Cold Damage)	12

In each of the remaining disease categories in this collection of cases, tongues were referenced less than 10 times, and in 18 of the categories, they were not mentioned at all. As this numerical analysis makes clear, Wu found the importance of the appearance of the tongue to be intimately connected and most relevant diagnostically to issues of heat in the body.

What we see during the Qing dynasty, is that *wenbing* was well on its way to becoming one of the most important theoretical constructs for the treatment of febrile disease, and the inspection of the tongue was an integral feature of its diagnostic process.

It is important, however, to recognize that *wenbing* as defined by practitioners such as Ye and Wu was indeed a new way of interpreting the attack and progression of febrile illness. As yet, there was by no means any universal agreement among physicians regarding *wenbing* theory, or the diagnostic practice of inspecting the tongue. Volker Scheid, in his study of the Menghe current of medicine, highlights this fact with a passage discussing the treatment strategies employed by the physician Fei Boxiong 費伯雄 (1800–1879).

> …he used treatment strategies and formulas from Wu Jutong's (1758–1836) 'Systematic Differentiation of Warm [Pathogen] Disorders' (*Wenbing tiaobian* 溫病條辨), published in 1798. If these strategies are today a standard part of the Chinese medical canon, they were at the time still hotly contested in polemics between proponents of the cold damage and warm [pathogen] factor currents.[130]

129 Wu (1798), 2002, p.678.
130 Scheid, 2005, p.97.

Scheid goes on to identify Wu Jutong's use of tongue inspection as one of these hotly contested practices.

The fact that Wu Jutong's treatment strategies, as well as his diagnostic use of tongue appearance, were not yet clinical norms suggests that he would have needed to argue for their acceptance. What I contend that we have seen in the course of this chapter, is that the use of case records makes the most eloquent argument for the validity of clinical behaviours. As Charlotte Furth declares, '…a case transforms facts into evidence'.[131]

131 Furth, 2007, p.3.

Chapter 6

Transmission of Chinese Medicine to Europe

'There are years that ask questions and years that answer.' Zora Neale Hurston[1]

This chapter will consider the transmission of information about the medical practices in China, to Europe, that took place tfrom the end of the 17th century, and the dynamic state of European Medicine from the 17th through the 19th centuries. In previous chapters, we have seen that a vibrant and innovative discourse took place among scholar physicians in China during the Ming and Qing dynasties. In Europe, during the early modern period (1550-1750), physicians were experiencing equally stimulating circumstances in which there were innovations in theoretical understandings, diagnostic interventions, and the siting of patient care.[2] As Thomas Rütten puts it, there was an increasing degree of complexity, as both clinical practice and academic pursuit were open to physicians at the more learned end of medicine, while there remained a great plurality of popular medical care.[3] Nancy Siraisi points out that both history and medicine rely upon 'description of particulars and narratives'[4] that were recorded, and that during the Renaissance period (1400–1700), medical training 'did not correlate with the production of any particular type of history'.[5] The disciplines of philosophy, astrology, alchemy, history and natural history were integral to the melange of medical learning and practice. The tenor of early modern medicine was 'a genuinely international and interdisciplinary enterprise',[6] in which 'medical theories underwent radical change'.[7]

It was into this inquisitive and investigative atmosphere that medical texts from China, primarily in Latin translation, arrived in Europe during the late 17th and early 18th centuries. The vigorous and expanding sea trade[8] between China and Europe enabled a particular-

---

1 Hurston, 1937, p.27.

2 I do not here argue that this is the only period of innovative dynamism in western medicine. Certainly, innovation is a companion of much of western medicine's recorded history. However, in this thesis, as I focus on the period of European medical history in which there was increasing textual transmission, significant amounts of it medical, from China to the West, the dynamic state of western medicine was an important factor in its reception.

3 Rütten, in Jackson, (ed.), 2013, p.62.

4 Siraisi, 2010, p.12.

5 Ibid, p.19.

6 Rütten, in Jackson, (ed.), 2013, p.70.

7 Wear, in Wear, (ed.), 1992, p.120. Scholarly work on the history of early modern medicine can be found in Porter, 2006, pp.143–152; Jewson, 1974, pp.369–383; Rüten in Jackson, 2013, pp.60–81; Porter, Wear, Risse, Granshaw and Loudon, in Wear, (ed.), 1992, pp.91–248; Wear, in Bates, 1995, pp.151–173, among others. There was a great plurality of medical practitioners in early modern England. Loudon, 1985, provides an interesting study of the medical world beyond London, describing clinical practice as well as the social status, and economic situation of provincial practitioners, pp.1–32.

8 In this dissertation, I focus on sea routes along which the texts I discuss travel to Europe, beginning in the 17th century. But it is important to note that trade routes between China and Europe were originally overland, along what we know as the Silk Road. The term Silk Road is attributed to Baron Ferdinand von Richthofen, a German geographer, who coined the phrase in the 19th century. Some

ly fruitful interface between the employees of the Dutch East India Company, or VOC (Verenigden Oostindischen Compagnie) and Jesuit missionaries in Asia, which brought a variety of writings on Chinese medicine to Europe. These texts of translation and explanation presented Chinese medical theory, descriptions of pulse diagnosis, the practice of acupuncture illustrated with the locations of its channels and points, *materia medica* and drug recipes, the practice of moxabustion, and tongue diagnosis. While there is well-documented Western interest in Chinese pulse diagnosis,[9] medicinals,[10] acupuncture[11] and moxabustion[12] since the 17th century, there has not thus far been significant investigation into Western interest, if any, in the Chinese use of tongue diagnosis.

By looking at European physicians' writings, including case records, clinical instruction texts, an eminent lecture and the publication of a new theoretical construct designed to support the relevance of tongue appearance to western diagnosis, I will show that tongue inspection has a long but peripheral history in the practice of Western medicine. We will see that there is a lacuna of sorts in this history, in that preceding the publication of the *Specimen* in Europe, the use that physicians made of tongue inspection was sporadic and most prominent in cases of febrile illness. In the two centuries following its publication, there is an increased and sometimes standardised use of tongue inspection,[13] but there is no direct evidence linking this change with the *Specimen*. While tongue appearance continued to be most frequently noted as an aspect of febrile presentation, it began to appear in the written record in an expanding array of disease categories.

Across early western medicine, there is only sporadic reference made by practitioners to the appearance of the tongue. The Hippocratic writings do not offer any system of tongue diagnosis,[14] though again, the appearance of the tongue is sometimes, but not always, men-

---

of the North–South overland routes were links to Russia and were increasingly used from the 16th century, and by the 18th century direct connections from Central Russia to Central Asia were established (see Bosiritz, 2007, pp.214–215). There is a growing body of scholarship on these overland routes, among which are Whitfield, 2005; Lo and Cullen, 2005; Lo, Berlekamp and Wang, 2015; Lightman *et al.*, (eds), 2013. For evidence of the transmission of Wang Kentang's 王肯堂 *Zhengzhi zhunsheng* 證治準繩, which contains Du Qingbi's 杜清壁 image–based work on tongue diagnosis to Russia, see Li and Churilov, 2014, pp.259–277.

9 Cleyer, 1680; Floyer, 1707; Medhurst, 1838, pp.110–111.

10 Boym, [1656] 1730; Bretschneider, 1881.

11 Ten Rhyne, 1683, Churchill, 1821.

12 Temple, 1680; Wallace, 1827.

13 We will see that in medical institutions' use of medical forms, particularly intake forms, a section on tongue presentation appeared. Additionally, by the 19th century, diagnostic texts and clinical manuals made regular mention of tongue appearance. See for instance Barclay, 1864, pp.vii and 48; Finlayson, 1878, pp.46, 88, 305–307; Vierdordt, Stuart, (trans.), 1898, pp.254–255.

14 There is no mention of the tongue in Francis Adams' (1994–2009) translations of the Hippocratic *Prognostics*, and a search through the *Aphorisms* yields only one mention. The publications of Vivian Nutton (1995a, 1995c, and 2013) an expert in the field of Greek medicine, offer no information on diagnosis according to the tongue. The lack of a system of tongue diagnosis was confirmed in discussion with Professor Nutton. It is noteworthy, however, that the Brasavola Index, 7th volume, of the 1625 Giunta edition of Galen's works does include a selection of references to the tongue. In Galen's writings, the tongue is able to indicate altered states, but again, this is not used as a systematic

tioned as an aspect of febrile illness. In the Middle Ages, for instance, Hildegaard of Bingen (1098-1179),[15] a Benedictine nun and polymath, known for her interest in medicinals and treatment provides just scattered mentions of the tongue. Some are unrelated to fevers, such as with asthma, with which the tongue appears 'pale, clammy and has a blue tinge'.[16]

In the early modern period a popular medical textbook, Christopher Wirtzung's *Praxis Medicinae Universalis*, or *A General Practise of Physicke* (1598, translation by Jacob Mosan) has diagnostic signs ascribed to the tongue:

> There may also very sure signes bee taken of the tongue: the which if it be white, then it is not onely a signe of Colde, but also that the stomacke, head and liver are full of Phlegm: If it be red, then doth it signifie that this maladie is caused of blood, and of hot rheumes: the yellowness is a signe that Cholera is cause of all: If it be of the dolour of lead, and blackish, it sheweth Melancholoy to be the cause of it, unlesse it should proceede of some unnaturall heate, as in hot fevers it commonly chanceth.[17]

However, we can see that Wirtzung does not present the fine detail of the tongue's appearance that we saw earlier in Cleyer's *Specimen*.

As far as I have been able to ascertain, diagnostic practice in Europe during the 17th and 18th centuries offered no specific repository of tongue diagnosis lore that precedes the publication of the *Specimen*.

Tongue inspection's elevation in China from incidental practice to a position of comprehensive diagnostic possibility occurred during a time of innovation in both theory and practice in Chinese medicine. It also occurred alongside a shift in the educational training and societal status of physicians in China. Presenting an interesting parallel, both an innovative state of medicine and a transformation in the societal standings of medical practitioners were at work in Europe following the publication and reception of the *Specimen* at the end of the 17th century.[18]

The new medical information coming from China to Europe offered both stunningly new practices and familiar clinical behaviours. Pulse palpation was a well-known medical behaviour in Europe, and as we learned from Kuriyama in Chapter 1, 18th and 19th century medical practitioners imagined a far greater commonality between the European and

---

method of diagnosis, and there is no single Galenic treatise on the tongue.

15 For further information on this fascinating woman, see Singer, 1928, pp.139–199; Streblow and Hertzka, 1988; Throop, 1998, and Maddocks, 2013.

16 Streblow and Hertzka, 1988, p.22.

17 Wirtzung, Mosan (trans), 1598, p.168. This passage, while clearly a humoural reading of imbalance displayed on the tongue, offers an interesting resonance with the Chinese relationships between colours, temperature and bodily conditions. This perceived commonality, as discussed by Kuriyama, 1999, in relation to European perception of Chinese pulse diagnosis, also enabled significant misunderstanding as clinical practices crossed cultures.

18 I refer again to Loudon, 1985, pp.1–32, as well as: Porter, pp.91–118, Wear, pp.119–147, and Risse, pp.149–195, all in Wear (ed.), 1998; Wear, in Bates, (ed.), 1995, pp.151–173; Jewson, in Elmer and Grell, (eds), 2004, pp.189–197; Shorter, in Porter, (ed.), 1996, pp.118–145; plus Rütten, pp.60–81, Spary, pp.82–99, and Cooter, 100–116, all in Jackson, (ed.), 2013. See also Lawrence, 1994, and Lindemann, 2013.

Chinese practices than actually existed. Similarly, the introduction of moxabustion to the European audience benefitted from at least a slight resonance with familiar behaviour, since cautery had long been part of European medical practice.[19] Herbal medicines, or the *flora* and *fauna* of drug recipes, were an integral aspect of medical treatment and the possibility of more effective remedies to be had from the Chinese *materia medica* was keenly anticipated.[20] And yet, the treatise on tongue diagnosis, an elaboration on a familiar medical behaviour and part of a text discussing the previous three familiar aspects of medical practice, appears to have generated little in the way of recorded interest.[21]

The VOC, Jesuit Scholars, and the Transmission of Texts

Phrases such as 'the globalisation of medicine' and 'the interface of traditional Asian medicine with Western medicine' conjure up very contemporary notions of the transformations of medical systems. As Chinese traditional medicine in particular becomes known and used throughout the world – a world in which 'modern', 'western', 'scientific' or 'bio'-medicine is accorded supremacy – its position at that interface is a somewhat movable feast. It is seen variously as complementary, alternative, unscientific, old-fashioned, superstitious, or occasionally, when it offers up something previously unconsidered by modern research, innovative. But on any terms, the widespread international interest shown by patients and some physicians in Asian acupuncture, herbal and bodywork therapies has been a phenomenon of globalization.

And yet, medical ideas, theories, practices and texts have been moving about the globe in the wake of conquests, evangelisms and trade for millennia. Medical texts from various Asian traditions were making their way east along the silk road to Arabia and onward to Europe from at least the late 13th and early 14th centuries.[22] This stream of transmission rein-

19 Ackerknecht, 1967, p.636. It is important to note, however, that the practice of moxabustion as well as its intent were dramatically different from that of cauterization, whose primary purpose was to staunch bleeding.

20 Hanson and Pomata (2017, p.19–24) show that Michael Boym presented a careful translation of Chinese medical lore designed for western reception. Boym structured his translated Chinese formulae in standard European vertical format, italic font, Latin directives, and dosage adaptations. This last spoke to learned physicians' aversion to set cure–all remedies, employed by less erudite practitioners. Chinese physicians of the Ming and Qing and early modern learned European doctors shared a distrust of the practice of charlatans and standardised treatments. This is documented in Zeitlin, in Furth *et al.,* 2007, p.197, while the European view is found in Zacchia, 5th edn, 1660, p.403 (in Hanson and Pomata, 2017, p.8, fn. 44).

21 While I do not here argue for it, the question does arise as to the possibility of European physicians' knowledge attending tongue inspection being subsumed in the realm of 'incommunicable knowledge'. See Lawrence, 1985, and Lawrence and Shapin, 1998, p.166.

22 Holroyde–Downing, in O'Bryan and Zhou, (eds), 2015, p.146. Many scholars have written about the transmission and exchange of knowledge and commodities along the silk road. Among those who particularly discuss medicine are Allsen, 2004 and Allsen in Di Cosmo, Frank and Golden (eds) pp.135–154; Chen, 2007, pp.241–264; Günergun and Raina (eds), 2011; Kauz (ed.), 2010, particularly Liu, in Kauz (ed.), 2010, pp.87–96; Lo and Cullen, 2005 Lu and Needham, 2002, pp.269–318;

vented itself in terms of mode of passage when the sea routes of the 17th century flourished and became profitable.[23]

The transmission of Asian medical knowledge to Europe owes a great deal to what Harold Cook called a sometimes fractious but collaborative effort[24] between the Jesuits in China and the Dutch and German medical employees of the Dutch East India Company, hereafter the VOC. The VOC was established by the Dutch government in 1602, and quickly eclipsed all of its rivals in the trade links between Asia and Europe. Between 1602 and 1796 the VOC sent almost a million Europeans to work in the Asia trade on 4,785 ships, and netted for their efforts more than 2.5 million tons of Asian trade goods.[25] The Dutch ships carried not only the company's spices, cloth, tea, silver and other luxury goods between Asia and Amsterdam, but also transported Jesuit priests and their correspondence between China and Europe. A great deal of this correspondence dealt with observations of Chinese medical practice and translations of Chinese medical writing. These documents that made their way along the Dutch trade routes to publishers in Europe required good working relations between missionaries and merchant traders, as we will see below.

Transmission of Chinese Medicine to Europe

A well-known example of the highly cooperative relationship between Jesuits and Dutch merchants at the Chinese coast is the story of the Flemish father Philippe Couplet who in the 1670s and 1680s exchanged letters with VOC officers in Macao and assisted them with translations from Portuguese texts. He also exchanged medicinal knowledge with the VOC doctor Andreas Cleyer in Batavia. This so-called 'via Batavia'[26] along which several intermediaries in China, Batavia, Antwerp and Amsterdam facilitated circulation of letters and books, existed until the beginning of the 18th century.[27]

Numerous accounts of European observations of China were produced by merchants, physicians and missionaries. These accounts featured in the correspondence between the missionaries and representatives of Europe's elite and helped shape an idealized vision of China as an enlightened philosopher's kingdom. Samuel Pufendorf (1632–1694), a German political philosopher and historian, offered the opinion that the Chinese emperor was surrounded by extraordinary philosophers who advised and cautioned him. He wrote that these

---

Nylan and Loewe (eds), 2013.

23 Early trade routes between Asia and Europe and the later 17th and 18th century establishment and expansion of sea routes are discussed in Chapter 1.

24 Günergun and Raina, 2011, p.534.

25 Van Boven, 2002. p.14.

26 The VOC organised its Asian routes with Batavia functioning as a hub. This created a bureaucratically useful centre of operations, but eventually proved disastrous for certain aspects of trade, such as tea, in which freshness was compromised in the requirement to stop at Batavia *en route* from Asia. Arguably, this organisational structure led to the decline of the VOC in the late 18th and early 19th centuries. De Vries, 1997, p.450.

27 Hertroijs, 2011, p.9.

philosophers were extraordinarily able men, having passed difficult examinations, whereas academic honours in Europe, as Pufendorf complained, were sometimes venal.[28]

Prominent figures of the European enlightenment on the receiving end of these accounts and assessments included eminent philosophers Voltaire (1694–1778) and Leibniz (1646–1716), as well as various members of royalty in England, France and Prussia.[29]

The copious narratives generated by Jesuits travelling to China between 1702 and 1776, led to the creation of anthologies of their works.[30] Twenty-five of these anthologies were edited by the Jesuit father Jean-Baptists Du Halde (1674–1743).[31] Du Halde published *Description geographique, historique, chronologique, politique, et physique de l'empire de la Chine et de la Tartarie chinoise,* in four volumes. So eagerly received was Du Halde's work that it was translated into English within a year by Richard Brookes, entitled *A General History of China, containing a Geographical, Historical, Chronological, Political and Physical Description of the Empire of China, Chinese-Tartary, Corea and Tibet.* Volumes three and four in particular offered numerous descriptions of the *materia medica* in use in China, which was largely unknown to Europeans, as well as observations on Chinese medical practice, including pulse taking and methods of preparing and administering medicines.

It was with this stream of informative literature that the treatises and manuscripts on Chinese medicine being compiled and translated by Jesuits and physicians first made their way to European publishers.

Among the early European publications were Louis Augustin's *les Secrets de la Medecine des Chinois, Consistant en la Parfait connaissance du Pouls* (The Secrets of Chinese Medicine, Which Consists in a Perfect Understanding of the Pulse) published in Grenoble, 1671; Andreas Cleyer's *Specimen Medicinae Sinicae, sive Opuscula Medica ad Mentem Sinensium* (An Outline of Chinese Medicine, or a Short Work on Medicine according to Chinese thought) (hereafter, the *Specimen)*, published in Frankfurt 1682; and Michel Boym's *Clavis Medica ad Chinarum Doctrinam de Pulsibus* (Medical Key to the Chinese Doctrine on the Pulse), (hereafter, the *Clavis*) , (hereafter, the *Clavis)*, published in Halle 1686.[32]

The Jesuits, the Physicians, and the Publications

Four of the players who figure importantly below in my discussion of the early texts on Chinese medicine published in Europe are Michel Piotr Boym (1612–1659), a Polish Jesuit

28 Demel, in Lee (ed.), 1991, p.57.
29 Laamann, 2000, p.14.
30 See, for instance, Le Gobien *et al.* (eds), 1979.
31 Barnes, 2005, p.74.
32 The first of these texts is definitively attributed to Louis Augustin, but controversy suffuses the scholarship on the authorship of the second publication, Cleyer's *Specimen*. A lucid and concise description of the arguments can be found in Barnes, 2005, pp.358–359, fn. 9, and more recently in Hanson and Pomata, 2017. The third was published posthumously under Michel Boym's name.

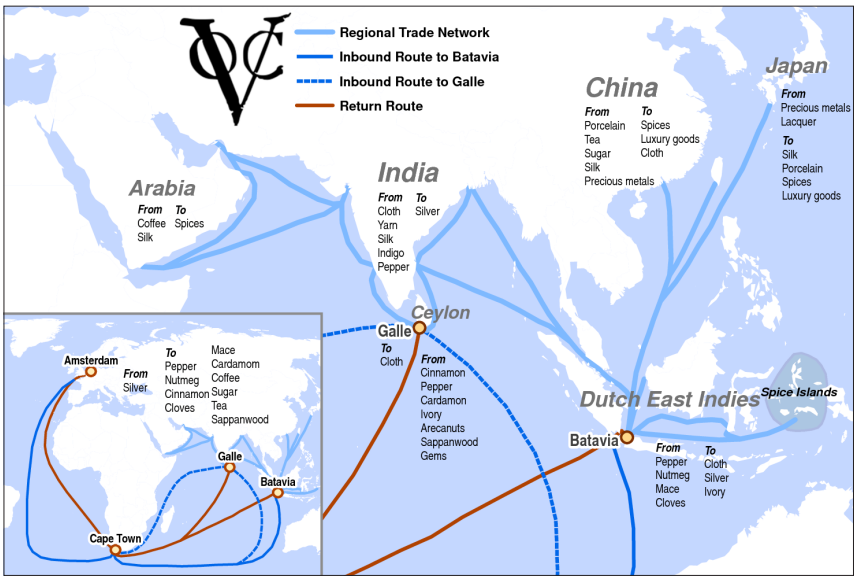


Figure 1 VOC routes between China and Europe, showing Batavia as a hub. From Rodrigue, J-P. *et al.*, 2017

and son of a prominent physician, Philippe Couplet (1623–1693), a young Belgian Jesuit befriended by Boym, Andreas Cleyer (1634–1698), an employee of the VOC and medical practitioner of uncertain qualification, and Willem ten Rhijne (1647–1700), a Dutch physician, also in the employ of the VOC.[33]

In 1643 Boym set out for China, arriving in Macao where he would have undertaken intensive Chinese language study. By this time, Chinese scholars and Jesuits were exchanging information about medicine.[34] In 1656 Boym had published *Flora Sinensis, Fructus Floresque Humillime Porrigens* (Chinese Flora, or a Treatise on the Flowers, Plants and Animals Particular to China), and the French publisher Sebastian Cramoisy printed an account of Boym's work in China which included an addendum listing seven titles nearing readiness for future publication. Among this list of seven was a work on diagnostics in Chinese medicine. Boym, however, died in China 5 years later, and his text on medicine had not been published – at least not with any attribution to Michel Boym.

Boym made the acquaintance of another of our protagonists, Philippe Couplet, in 1658 in Siam, as both priests were *en route* to China. Couplet also was developing a keen interest in medicine, and Boym is known to have given him a compilation of his own work on the Chinese method of pulse taking.[35] Couplet collected some further works of the older priest after his death, selling them to our third protagonist, Andreas Cleyer. Although the date of

33 The fascinating, productive and at times acrimonious relationships among these men, and between themselves, the VOC and the Jesuit order are discussed by many scholars, among them; Pelliot, 1935; Mungello, 1989; Barnes, 2005; Cook, 2007, 2011; Hinrichs and Barnes 2013; Rogers *et al.*, 2014; Hanson and Pomata, 2017.

34 Cook, 2007, p.364.

35 This would most likely have been the beginnings of what would eventually become Boym's posthumous publication on the pulse, the *Clavis*.

Couplet's first meeting with Cleyer is uncertain, they were in documented communication by 1666. Cook describes their association:

> Couplet and Cleyer continued to write to one another, with Couplet sending him information and Cleyer returning newspapers, medicine, money and requests for Chinese medical works, particularly being interested in manuscripts on Chinese 'pulse-method'. Among the materials that Cleyer obtained from Couplet were translations and analyses of Chinese medicine compiled by Michael Boym... . [36]

Cleyer[37]was a medical practitioner[38] of uncertain education and training, who joined the VOC. He shipped out to the East Indies, where in 1664 in Batavia, he was listed as a *medikus licentiaet.*[39] He was ambitious in business, and following an inheritance from a widowed aunt, gradually established himself as the holder of almost all the medical positions in Batavia, including that of apothecary to the hospital.[40] He is the author of the *Specimen* which contains information on acupuncture channels and points, pulse diagnosis and pharmacology, along with a discrete section[41] on the Chinese method of tongue diagnosis, which is of particular concern to this dissertation. His eventual fame as the author of the *Specimen* is generally thought to be owed in great part to Boym and Couplet, and somewhat to ten Rhijne.[42]

Our fourth player, Willem ten Rhijne (1647-1700), was a botanist and a physician who was recruited by the VOC in 1673. He sailed to Batavia, from where he was sent to the Dutch trading post of Deshima, Japan. He expected that he was to be a physician to the Shogun. However, despite months of scholarly interchange with the Japanese,[43] which led to ten Rhijne producing a seminal piece on acupuncture, *De Acupunctura* (On Acupuncture) within his *Dissertatio de arthritide* (Dissertation on Arthritis) 1683,[44] he was not offered the expected post and returned to Batavia in 1676. He did, however, collaborate with Andreas

---

36 Cook, 2007, pp.364, 365.

37 Cleyer is alternately identified as Dutch or German. Barnes, 2007, p.75, definitively states that he was German.

38 While sometimes referred to as a surgeon, there is no evidence that he ever qualified in medicine. In his publication of 1682 he is listed as a chief physician, head pharmacist, and overseer of the surgeons for the VOC in Batavia.

39 Cook, 2007, p.307.

40 Bruijn, 2009, provides information on Cleyer's management of Batavia's City Apothecary and Dispensary, as well as a list of the books found in his library there. pp.104, 231–232.

41 While the first five sections of the *Specimen* are successively paginated, the sixth section on tongue diagnosis is paginated separately.

42 The spectre of plagiarism, though disputed, hangs over Cleyer's authorship of the *Specimen.* Couplet was the procurer of Boym's manuscripts for Cleyer, and Hanson and Pomata (2017, p.10) argue that Couplet claims Boym is the author. For further discussion of authorship of the *Specimen,* see Pelliot (1935, 31:95–151); Szczesnik, 1955; Kajdanski, 1987; Golvers, 2003, pp.181–182; Barnes, 2005; Cook, 2011.

43 Japanese physicians and ten Rhijne communicated through interpreters. Much can be assumed to have been 'lost in translation', with questions put to ten Rhijne as to how European physicians distinguished between concepts they did not in fact recognise, such as *yin* and *yang.*

44 Joseph Needham writes that '…it has justly been called 'the western world's first detailed treatise on acupuncture'. Lu and Needham, 2012, p.271.

Cleyer, helping Cleyer with his studies of Asian medicinal plants and practices.[45] It was VOC policy at this time to adopt Asian medicinals wherever possible, thereby ensuring fresh medical supplies and avoiding the costly transport of European medicinals to Asia.[46]

Beyond the *Specimen*

Cleyer's *Specimen* was published in Frankfurt in 1682. Assorted publications on life in China generally and various aspects of its medicine particularly were published in Europe and America in the following two centuries. A necessarily short and partial list in the table below[47] gives a sense of the flavour of these publications in England, France and America. The genre showed no let-up in the two centuries following the publication of the *Specimen*. The fact that some of these texts, such as Grosier's *Description Generale de la Chine* (A General Description of China), which included sections on medicine, were published in France, translated into English and published in London, then republished again for the American market, points to the fact that the popularity of information on Chinese medicine was widespread and long-lived.

Table 1 Selection of Publications on China and Chinese Medicine, late 17th to late 19th Centuries, (compiled by the author)

Year	Author	Publication
1683	Willem ten Rhyne	*Dissertatio de Arthride Mantissa Schematica de Acupunctura*
1694	Engelbert Kaempfer	*Moxa, praestantissima Cauteriorum materia, Sinensibus Japonibusque multum usitata* (1694 delete (1694
1696	LeComte, Louis	*Nouveaux memoires sur l'etat present de la Chine*
1698	LeComte, Louis	English translation of the above
1707	Sir John Floyer	*Physician's Pulse-Watch*
1712	Engelbert Kaempfer	*Amoenitatum exoticarum politico-physico-medicarum fasciculi V*
1727	Engelbert Kaempfer	*The History of Japan*
1733	Eusebbe Renaudot	*Ancient Accounts of India and China, by two Mohammedan Travellers*
1736	J-B. Du Halde	*The General History of China*, (trans.) Richard Brookes
1759	A-F. Bridault	*Thesis Medica ... Medicinae Sinensis Conspectus*
1776	L-F. Delatour	*Essais sur l'architecture des Chinois, sur leurs jardins, leurs principles de medicine and leurs moues et usage*
1778	J-B.G.A. Grosier	*Description Generale de la Chine*
1788	J-B.G.A. Grosier	English edition of above, London edition
1795	J-B.G.A. Grosier	American edition of above, Philadelphia
1819	D.J. Larry	*Moxa*
1821	J.M. Churchill	*A Treatise on acupuncturing*
1822	D.J. Larrey	*On the use of moxa, as a therapeutical agent*, (trans.) Robley Dunglison
1825	J. Morand	*Memoir on acupuncturation*, (trans.) Franklin Bache
1873	W.H. Medhurst	*The Foreigner in Far Cathay*

45 Ten Rhijne's skill as a botanist and chemist, as well as a physician, caused the VOC to select him for the journey to Deshima, Japan. Parker, 2013, p.652.

46 Cook, 2007, pp.339–377.

47 I have selected texts that range from specifically medical to those of a general overview of things Chinese in order to give a broad flavour of the publications on China during this period.

European Medical Practice and Chinese Diagnostic Techniques

The intermingling of interests, ambitions and undertakings of this group of Jesuits and medical practitioners, gathered under the auspices of the VOC, stimulated a keen interest in Europe about medical practices of China. It was at this juncture that the *Specimen,* appeared in Europe, contributing to that interest.[48]

This late 17th century publication was a translation of the Chinese treatise on tongue diagnosis, the *Jinjing lu*.[49] The book appeared at a time of innovation in European medicine, and a time of heightened European interest in things Chinese. As we saw with China, tongue inspection can be said to have 'always been there', and the same can be said of the practice in western medicine. The appearance of a patient's tongue was not an unusual note to find in cases recording febrile illness, but it remained a marginal practice. Also, as we saw with early Chinese medicine, the information a physician gained from its appearance did not offer any great diagnostic revelations. Tongue inspection may have been present in Europe, but it did not compare to the status accorded diagnosis through the inspection of the urine,[50] nor was it as prevalent as the palpation of the pulse.

European Diagnostics in the 17th and 18th Centuries

In Europe, at least until the mid-17th century, health, disease and the difference between them largely continued to hinge upon the concept of the four humours.[51]

---

48 After the publication of Cleyer's text we have a record of its reception. Barnes, 2005, p.105 writes that after reading Cleyer, John Locke commented about ginseng in his journal, and that Kaempfer cited Cleyer, and the Royal Society cited Engelbert Kaempfer (1651–1716), a Dutch polymath, and author of *Moxa, praestantissima Cauteriorum materia, Sinensibus Japonibusque multum usitata* (1694). Additionally, Needham and Lu (2012, p.286) write that 'Cleyer's book had a great influence in England a little later when it was abridged and paraphrased as part of Sir John Floyer's 'Physician's Pulse–Watch' [1707].

49 That the publication is a translation is not disputed. However, Colin Lessell (2007) attributes the translation to Cleyer, while Hanson and Pomata (2017, p.9) dispute this, given his poor grasp of the Chinese language. They suggest the likely translator was Philippe Couplet, who Barnes (2005, p.358) argues is probably the 'erudite European' that Cleyer mentions in the publication.

50 One of the methods of documenting prevalence of practice is through images. The urine flask was a prevalent diagnostic image in the medical art of the medieval and early modern period, as was the depiction of pulse palpation. In a search through the Wellcome library's collection of images, I found copious examples of both pulse and urinary diagnostic practices, but not a single image of a physician inspecting the tongue until the 19th century.

51 The four humours refers to a system of Greek medicine, associated with Hippocratic teaching. The humours are black bile (μέλαινα χολή), yellow bile (χολή), phlegm (φλέγμα), and blood (αἷμα). Each of the humours corresponds to one of the traditional four temperaments: black bile/melancholic; yellow bile/choleric; phlegm/phlegmatic; blood/sanguine. Barnes (2005, p.90) notes that both Cleyer and DuHalde equated the Chinese Five Phases with the European notion of the elements.

Therapy in the early modern period of European medicine was primarily evacuative, with purging, sweating and bloodletting functioning as primary treatments.[52] The story of how certain aspects of a medical encounter come into and go out of use in varying traditions is fascinating, and the field of diagnosis offers a creditable window onto the shifting sands of tradition. Diagnostic practice in 17th century Europe tended to involve both the inspection of a patient's urine and the palpation of the pulse.[53] So common had the inspection of the urine been since the Middle Ages in Europe, that the matula, or transparent urine glass, became the emblem of a physician. The inspection of urine in western medicine has a long history. In the *Aphorisms* of Hippocrates (460–377 BCE) it is noted that a disease of the kidney and a long illness are indicated by bubbles on the surface of the urine.[54] In discussing epidemic fevers, the writings give us a selection of visual descriptions of urine, including dark, cloudy, pungent, thick with white sediment, and with suspended particles.[55] Paracelsus (1493–1541) was able to precipitate protein in urine by using vinegar, though there is no indication that he had any idea of what to do with this information.[56] However, by the 17th century, the many applications of urine inspection that had accompanied medicine began to provoke criticism. A publication ridiculing uroscopy suggested that one of the era's two staples of diagnosis, the inspection of the urine, was increasingly in bad odour.

> By the 17th century, the uses of uroscopy had spiraled far beyond the edge of reason. Physicians and leeches started telling fortunes and predicting the future with urine, a practice known as 'uromancy'. Witch hunters mixed urine with nails to distinguish witches from non-witches. The abuses of urine finally caused a backlash. Activist and author Thomas Brian led a medical rebellion against all uses of uroscopy over the centuries. In 1637, Brian published the *Pisse Prophet*, a book that devastated uroscopy. Physicians seen with a matula became objects of ridicule Those who used urine diagnoses were called pisse prophets, pis-semongers, water-caters, pisse-procrastinators, and urinarians.[57]

Michael Stolberg writes that among learned physicians, uroscopy was becoming devalued as a diagnostic tool by the early 16th century, and that by the 17th and 18th centuries, its earlier prominent position was in severe decline. The practice continued at least through the 19th century, particularly among the lower echelons of medical practitioners.[58] However, learned physicians, despite their patients' continued belief in its use and sometimes insistence upon it, warned against it, particularly when used as a sole diagnostic tool.[59]

---

52 Horstmanshoff *et al.*, (eds), 2012.
53 Jewson, 1976, p.228
54 Chadwick and Mann, (trans.), 1984, p.232.
55 Chadwick and Mann, (trans.), 1984, pp.102–103.
56 White, 1991, p.121.
57 Armstrong, 2007, p.387.
58 See Porter, 1989, pp.203–216, especially pp.203–205. Also, Nutton, 2017, p.95, who cites Van Foreest's 1611 *De incerto ac fallaci urinarum iudicio* (*Dialogue on the Uncertainties and Fallacies of Uroscopy*) pp.167–243.
59 See Stolberg, 2007, pp.313–316 and Stolberg, 2016, particularly pp.123 – 160.

And so, by the middle of the 17th century, just over three decades before Louis Augustin's above mentioned *les Secrets de la Medecine des Chinois, Consistant en la Parfait Connaissance du Pouls* was published in France, we see that the inspection of urine was falling out of favour with more academically-minded physicians.

Out with the Old and In with the New: Western Medicine's Turn from Humouralism

Innovations in medicine were occurring as the first truly global trade networks were maturing. The early 18th century trade networks brought new commodities from distant places to Europe,[60] and with them, as shown in the table on publications above, information about these places and their cultures. By the 18th century, European[61] medical practitioners were themselves working in an atmosphere of discovery and theoretical innovation. Andrew Wear describes the dynamic situation in early modern medicine:

> Medical theories underwent radical change at this time. At the beginning of the period (1550)[62] learned medicine, that is the medicine taught in the universities and practiced by the Fellows of the London College of Physicians, was based on the classical authority of Galen and described the body in humoral, qualitative terms. At the end of the period (1750) Galenic medicine was in decline and had been replaced by chemical and mechanical explanations of the body.[63]

In the hundred years before the French Revolution (1789), medical ideology was a dynamic construct. Converts to new ideas, such as Iatromechanists,[64] Vitalists,[65] and Newtonians,[66] all emerged and argued their positions. William Osler described the profession of medicine as one that was 'literally ravaged by theories, schools and systems'.[67] Brockliss notes that:

60 Spices, tea, bone China and sugar were a few of the goods coming to Europe from Asia. See Schivelbush, 1992. Mazumdar, 1998 discusses the importance of the sugar trade from China.

61 I use the term European here, though I understand that interest in China and Chinese medical practice was also great in the Americas, and that during the innovations taking place in the teaching of medicine in the 17th, 18th, and into the early 19th centuries, many American medical students made the journey to Europe to study in the universities and observe in the clinics and hospitals of France, Scotland, England, Germany and Italy.

62 The period referred to is early modern England (1550–1750).

63 Wear, in Wear, (ed.), 1998, p.120.

64 Iatromechanics is the medical application of physics. It reached its height in the 17th century, as it attempted to explain physiological processes in mechanical terms. See Cook, pp.197–198, and Müller–Wille, p.196 in Jackson, (ed.), 2013.

65 Vitalism posited that living organisms contain some non–physical aspect or element, and are therefore governed by different principles than inanimate things, which do not share this element. Spary, p.90, in Jackson, (ed.), 2013, and Caputo and Marcum, 2015, pp.1–5.

66 Newton's understanding that the universe was governed by rational and knowable laws underpinned the medical vision that the human body would also be governed by similar rational and understandable laws. See White, 1998 and Gleick, 2004.

67 Osler, 1921, p.189.

> Whereas a physician in 1650 would have largely inhabited the same ideological landscape as his predecessor in 1500, a physician active in 1789 lived in a world that his grandfather would scarcely have recognized.[68]

Put succinctly, this change was echoed by Geofrey Smerdon who wrote that 'The seventeenth century was a watershed dividing the modern from the medieval in medicine'.[69]

In Europe, though the Hippocratic corpus continued to be a respected repository of medical learning and aspects of Galenic medical practice continued well into the 19th century, significant criticisms, both observational and theoretical, had been gathering in medical thinking for some time.

Hippocratic medicine is credited with having moved medical thinking away from religious, magical and demonic causation to naturalistic causes of disease. It also established a medical corpus based on humouralism and involving observation at a patient's bedside, giving historians the phrase 'bedside medicine'. Galen enhanced this textual repository of humoural medicine with commentary, but did not allow for any possibility of a real conceptual revolution in medical thinking. Classic texts were held to be authoritative and infallible.

However, by the 16th century there were notable voices calling into question the unassailable authority of the Galenic corpus. Paracelsus (1493–1531) was reported to have said 'The patient is your textbook, the sickbed is your study'.[70] Vesalius (1514–1564), through his work with human dissection, overturned some of Galen's assertions, which had been based on his dissection of apes,[71] and William Harvey's (1578–1657) explanation of the circulation of blood undermined Galen's anatomy and humoural physiology.[72] Chemists such as Robert Boyle (1627–1691) also challenged the systems of qualities[73] and elements, and in the 18th century, Antoine Lavoisier's (1743–1794) chemical work also contested the qualitative notion of the four elements, replacing them with a different set of elements which came to be codified as the periodic table.[74]

Alongside these challenges to long-accepted medical thought, medical practice was also changing. Newton's reflecting telescope and Leeuwenhoek's microscopy changed what could be seen, but they also changed the notion of 'seeing'. The signs provided directly by the body to an attentively observant physician were being highlighted. William Smellie's (1697–1763) *Treatises on the Theory and Practice of Midwifery,* 1741, provided a careful description of the

---

68 Brockliss, 1997, p.412.
69 Smerdon, in Dewhurst, (ed.) 1970, p.14.
70 Pachter, 2007, p.8.
71 For instance, Vesalius established that the sternum of a human being is comprised of three sections, not the seven that Galen asserted, having seen this in his dissection of the ape. O'Malley, 1964, p. 157.
72 It should be noted, however, that Harvey himself did not reject Galenism. Nutton, in Heilbron, (ed.), 2003, p.356.
73 If you challenge the qualities, you challenge the humours. See Lindemann, 2013, p.17.
74 Lavoisier is also credited with refuting the theory of phlogisten, which held that a fire–like element, phlogiston, from the Greek φλογιστόν *phlogistón* (burning up) and φλόξ *phlóx* (flame) was released during combustion. See Howson, 1976, pp.182–184 for a discussion of the questionable appropriateness of this crediting.

processes of labour during childbirth. Giovanni Morgani (1682–1771) wrote *De Sedibus et Causis Morborum per Anatomen Indagatis* (On the Seats and Causes of Diseases, investigated by Anatomy), 1761, in which he compared the findings of post mortem examination of patients with the symptomatic descriptions of their earlier clinical records.

In addition to visual information, the importance of the sounds produced by a patient's body were investigated. Leopold Auenbrugger (1722–1809) developed the technique of percussion – applying his ear to a patient while tapping on the chest – which could establish the presence of fluid in lungs. With this percussive technique he could also discern the approximate outline of the heart.[75] He published his findings as *Inventum Novum ex Percussione oracis Humani Interi Pectoris Morbos Detegendi.*[76] Rene Laennec (1781–1826)[77] wrote *De l'Auscultation Mediate or Traite du Diagnostic des Maladies des Poumons et du Coeur* (On Mediate Auscultation or Treatise on the Diagnosis of the Diseases of the Lungs and Heart), 1819.

In *Medical Writing in Early Modern English* referring to the 17th and 18th centuries, we read*:*

> During this period, the scientific paradigm experienced a major epistemological shift: medieval scholastic, logocentric science, relying on knowledge derived from Galen, Hippocrates and other ancient writers, gave way to new ways of constructing knowledge, relying on empirical methods and explanatory principles based on *observation* [author's italics] and cognition.[78]

The physician's own ability to observe was not only in receipt of new techniques, but was gaining a new primacy.

The academic education of medical practitioners in Europe was based primarily on lectures on the classic texts of the humoural medical corpus, and the lectures themselves were delivered in Latin.[79] Historians note this period, following on from the earlier noted 'bedside medicine' with the phrase 'library medicine'.[80] Both of these styles of humoural medical thought were to be overthrown in Paris by what came to be known as 'hospital medicine'.

---

75 Bedford, 1971, p.817.

76 The publication did not gain prominence until the French translation by Jean Nicola Corvisart, physician to Napoleon, who also taught the technique to his students. For further discussion on both Auenbrugger and Corvisart, see O'Neal, 1998.

77 Laennec's advance on auscultation was the invention of a wooden listening tube, the precursor of the modern stethoscope, which not only amplified sound, but allowed the physician's ear to remain a decorous distance from the body of the patient. For a history of Laennec and his work, see Duffin, 1998.

78 Taavitsainen and Pahta, 2014, p.3.

79 While medical education in Europe was neither static nor geographically homogeneous before the French Revolution, scholars generally agree that the French Revolution created a rupture in medical education. See for instance Hanaway and La Berge, 1998, p.1, and Weiner, 1993.

80 Although I am pointing out distinct classifications of 'bedside, 'library', and 'hospital' medicine, it is also true that there was a late 18th-century and early 19th-century revival of Hippocratic medicine's bedside observation. For discussions of the various and changing styles of medical practice, see Bynum, 2008, particularly chapters 1, 2, 3 and 5; Kassell, 2014, pp.601–604; Lindemann, 2010, pp.1–9; Jewson, 1976, p.228; Lawrence, 1994.

Particularly significant for this dissertation is the rise of what historians term the Paris School of Medicine, which took place in the later years of and decades following the French Revolution (1789–1799). The Paris School of Medicine's importance was not so much due to new developments in natural sciences or technologies or scientific discoveries, but to a conceptual revolution in understanding diseases and the transformation of medical epistemology.

What physicians knew and how they came to know it was intimately connected to the structure and function of the Paris hospitals, particularly the Hôtel-Dieu,[81] Charité, and Pitié.[82] The long-held notion that a crucial piece of the diagnostic process was the patient's own telling of the story of their illness faded rapidly in the Paris hospitals. The emphasis came to be on the more objective information that could be gained from an inspection of the patient's body by a physician using his senses. This came to encompass what could be observed both during life and, through autopsy, after death.

What Could Be Seen

As the ability of a physician to observe was gaining primacy, aspects of practice that demanded observation benefitted. While images could be created to depict the action of taking a pulse, the pulse itself could not be 'seen'. In contrast, the observed appearance of a patient's tongue could actually be seen, could be depicted quite faithfully, and indeed, two or more people could observe a tongue at the same time and agree upon its appearance. This last quality, which was to become paramount in the future, offered objectivity. I contend that this is the aspect of Cleyer's tongue text that would have allowed it to become useful to European physicians, if indeed they had access to it.

The Form of a 17th-Century Clinical Encounter

Generally, the 17th-century physician would have expected to be told the story of the sufferer's complaint – what was wrong, when did it begin, where was the complaint sited in the body and how did it come about. Lifestyle would likely be questioned, and a visual examination of the patient would be made.

> The practitioner would appraise this history in the light of prior experience. He would also conduct some kind of physical scrutiny of the body, but, by today's standards, this was cursory. It would be conducted by the eye, not by touch, paying attention to such features as skin

81 Hôtel–Dieu, located on the Ile de la Cité adjacent to Notre Dame in the heart of Paris, was founded by Saint–Landry in 651. It is perhaps the oldest hospital in the world to have provided care continuously on the same site.

82 Erwin Ackernecht, L.W.B. Brockliss, Caroline Hannaway, Ann La Berge and David Vess, among many others, have all written about the importance of the Paris School of Medicine. See Particularly Brockliss in Hanaway and La Berge, 1998, pp.71–116 and Brockliss, 1978, pp.221–251.

> colour and lesions (rashes or spots), swelling, and inflammation. Doctors would commonly feel the pulse with the finger, making a qualitative assessment (was it languid or racing, regular or erratic?), look at the tongue, listen to coughs, and sniff bad odours.[83]

Reading the above account, there is very little to differentiate this European physician's behaviour from that of a Chinese physician of the same era. Even the description of the pulse assessment had a familiar ring.

However, European physicians' reception of the pulse treatise was accompanied by an underlying assumption. This assumption – that the Chinese physician was obtaining similar information from pulse palpation as the western physician - was problematic in a way that is well described by Kuriyama, 'By the evidence of the eyes, *qiemo* [切脈], palpating the *mo* [脈 pulse], was unmistakably pulse diagnosis'.[84]

But what appeared to be a familiar behaviour was in fact underpinned with a dramatically different diagnostic understanding.

Chinese writings testified that the eyes were wrong. The hermeneutics of the *Mojue* [脈訣] were unlike any dialect of the pulse language known in Europe.[85]

During a clinical encounter, Chinese physicians placed their fingers not randomly on the radial artery, but at three distinct positions along the wrist, each of which related to the functions of different internal organs. In the long written tradition of Chinese medicine, texts described not only the shapes of pulses to be felt beneath the physician's finger tips, but also the relationship of these shapes to a correlative cosmology that made sense of the workings of health and illness. In this arrangement of information, philosophical concepts of *yin* and *yang*, the five phases and varying *qi* of the seasons all figured in the diagnostic implications of the pulse. Without an understanding of these theories underlying the practice of Chinese medicine, the information gleaned from pulse diagnosis as practiced by the Chinese physician would not have been understandable to European physicians, and consequently, Chinese pulse lore was not in fact diagnostically useful.

Despite this, John Floyer's very western innovation, the pulse-watch, was born out of the fertile melange of translation, part-perceptions, misunderstandings and arguably creative genius that occurred in a collision of cultural perceptions about the palpation of the pulse.

One of the arguments among physicians who practiced during this watershed was over the relative merits of ancient and modern learning, and a diagnostic practice that straddled the divide was that of pulse palpation. It is not possible in this dissertation to give a full account of these differing schools of thoughts and their proponents. What is significant for this dissertation is that the English physician John Floyer (1649–1734), sided with those

---

83 Porter, in Porter, (ed.), 1996, p.96. While we are told here that the doctor would look at the tongue, we have no real sense of what was being discerned, other than whether or not the tongue appeared 'normal'.

84 Kuriyama, 1999, p.22.

85 Ibid.

favouring the importance of ancient learning,[86] and hence he had an interest in the translations of Chinese medicine,[87] particularly those that dealt with the pulse.

Floyer had an interest in the Chinese medical treatises, the *Mo Ching*[88] of Wang Shu-Ho (*c.*265–317 CE), translated from Chinese into Latin by the famous Polish Sinologue, Michael Peter Boym (1612–1659) and edited in the *Specimen medicinae Sinicae* by the Dutch physician, Andreas Cleyer, in 1682. These short treatises on the ancient art of interpreting the pulse became the basis of Floyer's future research upon the beating of the pulse, expounded in the essay, *The Physician's Pulse-Watch,* which he published in 2 volumes, 1707–1719, in London.[89]

In the *Maijing* and in the *Specimen,* numbers of beats have diagnostic significance in pulse presentation. I offer the account of Floyer's study of the *Specimen* and his attention to the Chinese method of the pulse as it illustrates an important instance of the transmission of medical practice across cultures. Lu and Needham point out the influence Cleyer's *Specimen* exerted on Floyer's work.

> Cleyer's book had a great influence in England a little later when it was abridged and paraphrased as part of Sir John Floyer's 'Physician's Pulse-Watch; or, an Essay to explain the Old Art of Feeling the Pulse, and to Improve it by the help of a Pulse Watch'.[90] The two volumes of this came out in +1707 and +1710. ... Perhaps the keynote of Floyer's work was struck in his second volume where he entitled part I 'an Essay to make a new Sphygmologia, by accommodating the Chinese and European Observations about the Pulse' into one system.[91]

Floyer's study of the pulse information in the *Specimen*, which is generally held to have led to his creation of the pulse watch,[92],[93] highlights the impetus for innovation in western medical practice engendered by the newly translated texts on Chinese medicine arriving in Europe. As we will see later, the information recorded by physicians on the appearance of the tongue in a clinical encounter changed in both frequency and focus in the two centuries

---

86 Feelings remained divided for some time on Floyer's admiration of the Chinese texts on medicine, earning him a 19th century withering biographical lamentation as someone who had launched himself into 'one of the most dreary deserts in medical literature, ...the essay on the Chinese Art of Feeling the Pulse, with which Floyer loaded his otherwise valuable essay'. Mitchell, 1892, p.179.

87 Barnes (2005, p.75) points out that Floyer read both Cleyer's Latin translation of pulse lore in the *Specimen* as well as the English translation of selections of the *Specimen* by William Wotton (1660–1726) in his *Reflections upon Ancient and Modern Learning* (1694). Wotton's less than glowing appraisal of the pulse information in Cleyer's *Specimen* – 'It would be tedious to dwell any longer upon such notions as these, which every page in Cleyer's book is full of...' (Wotton, 1694, p.152) – does not seem to have dampened Floyer's enthusiasm.

88 In *pinyin*, or modern, Romanisation of Chinese, *Mo Ching* is rendered as *Maijing*, and *Shu–Ho* as *Shuhe*.

89 Sczesniak, 1954, p.130.

90 Here we have a reference to Cleyer by a western author [Floyer] who makes use of Cleyer's work on Chinese pulse diagnostics to make an innovation in western medicine's pulse diagnostics. I have not yet been able to find a similar referencing of the Cleyer text in relation to the tongue.

91 Lu and Needham, p.286.

92 Cook, 2007, p.368.

93 Floyer's innovation, most simply put, was to invent a watch with a second hand, '...and second hands have been on watches ever since'. (Clendening, 1960, p.572).

following the publication of Cleyer's *Specimen.* Yet there is no direct evidence of the influence of the *Specimen's* tongue treatise on European physicians, and rather than speculate we must at present avoid making inferences as to its influence on the development of tongue diagnosis in Europe.

The Pulse in Translation

As we saw earlier, by the time Andreas Cleyer's *Specimen* was being circulated in Europe,[94] urinoscopy and pulse palpation were common diagnostic techniques, and the first of these was getting a bad press. The second staple of diagnosis, however, the palpation of the pulse, had no such aspersions cast its way.

change 'above' to 'below'. [the images now follow]

The images above reflect a Chinese depiction of pulse palpation from the *Maijue* (Fig. 2) and a European depiction of the same procedure (Fig. 3) from the *Specimen.* It is fascinating that in the Cleyer rendition of pulse taking, the top image shows a single figure palpating the pulse, while the bottom image shows three fingers palpating. There is no suggestion that either of these is 'correct', or that there is a particular reason for one method being used over the other.

In the Chinese text, however, in both the top and bottom images, three fingers are shown to be palpating the pulse. Otherwise, the images are extremely similar, except for one other addition in the Chinese example. Below the palpating fingers, three characters are written: 寸(*cun*), 關 (*guan*), 尺 (*chi*),[95] which are the three places on each wrist where the pulse is usually taken. Each of these locations relates to a specific organ system in Chinese medicine theory, and there was no counterpart to this reckoning in European medicine. Consequently, in the western image, there is no need for the three- fingered specificity, nor for a labelling of the three distinct points of palpation. The pulse is the pulse, and in this case, location is nothing.

---

94 It is of note that copies of the 1682 text are held in numerous archives in Europe and the USA. A partial list of sites holding the text includes the University of Utrecht, the University of Leiden, the Staatsbibliothek in Berlin, the Universities of Heidelberg and Leipzig, the Sorbonne and Academie de Medical in Paris, the University of Padua, the University of Aberdeen, University College London, the School of Oriental and African Studies and the Wellcome Library in London. Copies are held in the US at the Countway Medical Library of Harvard University, the university libraries of Yale, Princeton and Philadelphia, the University of Wisconsin at Madison, The Library of Congress and the New York Academy of Medicine.

95 These three positions for feeling the pulse are rendered in English, with less than stunning explanatory clarity, as inch, bar, and cubit. *The Dictionary of Traditional Chinese Medicine* (Xie, 2002, p.136) defines them thus: the three sections over the radial artery considered when feeling the pulse: the bar (*guan*) is just over the eminent head of the radius at the wrist, where the tip of the physician's middle finger is placed, the inch (*cun*) is next to it on the distal side where the tip of the physician's index finger rests, and the cubit (*chi*) is on the proximal side where the tip of the physician's ring finger is placed.

Figure 2 Taking the Pulse, 1554 edition of Wang Shuhe's 王叔和 *Maijing* 脈經 (Wang Shuhe's Secrets of the Pulse). Courtesy of the Wellcome Library, London.

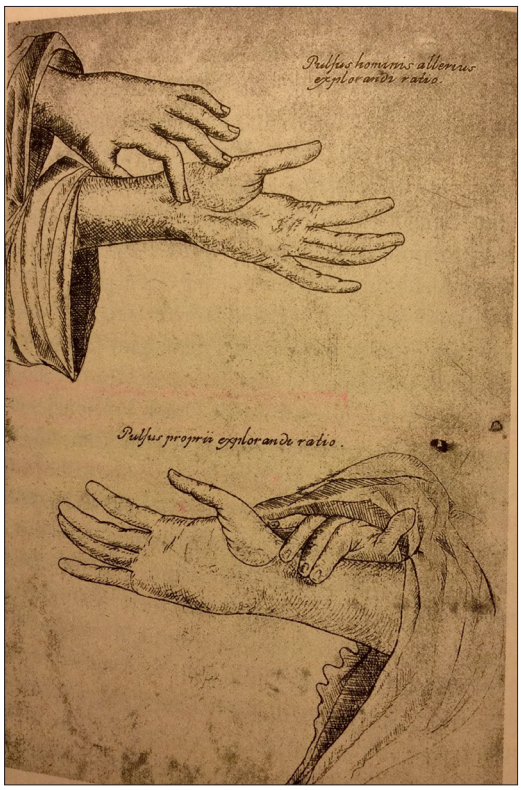


Figure 3 Taking the Pulse, 1682 edition of *Specimen medicinae* by Andreas Cleyer. Courtesy of the Countway Library of Medicine, Harvard University, Boston

The fact that European physicians had their own interpretations and meanings associated with the presentation of the pulse ensured that the Chinese practice, so similar in appearance, was misunderstood. And so, we are reminded of the earlier quote of Kuriyama's, 'Chinese writings testified that the eyes were wrong. The hermeneutics of the *Mojue* were unlike any dialect of the pulse language known in Europe.'

The Tongue Treatise

Part VI of the *Specimen,* the treatise on the tongue, contains 36 illustrations of tongue presentations that vary with stages of illness. Its title was *De indiciis morborum ex linguae coloribus & affectionibns* [sic] Concerning the Signs of Disease According to the Colours and States of the Tongue. Translating it from the Latin, Lessell declared that:

> ...it would appear that this itself was the first detailed communication of the diagnostic virtues of the tongue as described by the Chinese to the physicians of the western world.[96]

This section of the text had a vital attribute that the sections on acupuncture and pulse diagnosis lacked. It was nearly bereft of theoretical underpinning.

---

96 Lessell, 2006, p.323.

I say 'nearly bereft', as Cleyer did provide an introductory segment explaining the significance of colours.

> To support a clearer understanding of those things which follow, Chinese Doctors teach that there are five colours related to five organs and as many elements. The index of the heart, as they say, is the tongue, which is also a guide to the body in general; the colour red pertains or is subject to the heart, white to the lungs, blue to the liver, yellow to the stomach, black to the bladder or kidneys.[97]

The Chinese attribution of organ significance to the appearance of colour on the tongue would have been additional information for a European readership, but not necessarily essential to the ability to make use of the images. The drawings were recognisable tongue renderings, labelled appropriately for clarification. As can be seen in the illustration below (Fig. 4), following each image was an explanatory sentence or two highlighting the disorder a physician might expect to see accompanying a tongue with that appearance. Making use of this text, depended upon the physician making use of his eyes – his ability to observe.

There is very little in the above information accompanying the tongue images that would have been problematic for European physicians. The tongues are described in familiar fashion, with colours of white, red and yellow, and with qualities of smooth coating and rough sides. Tongue number 17 mentions 'lessened natural damp' and the drawing portrays central cracking which would resonate with diminished moisture in the dry tongue common to febrile illness. The text's language, referring to fire, dampness, heat and melancholy, would conjure up comfortable associations for a doctor of humoural medicine. Intestinal problems with a full and swollen stomach, as well as a chest feeling full of dry sputum would both have been familiar descriptions to a western physician in the 18th century. As we saw earlier, the tongue text offered a 'quick and easy' guide to diagnosis for Chinese physicians, and there is every possibility that its publication was intended to serve the same function for European physicians.

A Useful Diagnostic Guide or an Interesting Curiosity

The intentions of the *Specimen*'s author and translator[98] are of course unknown. However, the opening and closing paragraphs, which I set out below, do suggest that the publication was intended to be more than an interesting curiosity of medical practice.

> This treatise has been extracted from the book of a certain Christian Medical Mandarin (here, [in China] the title of Mandarin is bestowed upon Doctors who are acknowledged to be of distinction), who reported on more than one occasion that, despite not having assessed

97 Lessell, 2006, p.327. This correlation of colour with the body's organs and elements is the apex of the tongue treatise's theoretical sophistication, and is unlikely to have caused comprehension diffculties for western physicians.

98 I note again questions posed earlier concerning the authorship of Cleyer's *Specimen*. Additionally, see Hanson and Pomata, 2017, p.15, fn. 89.

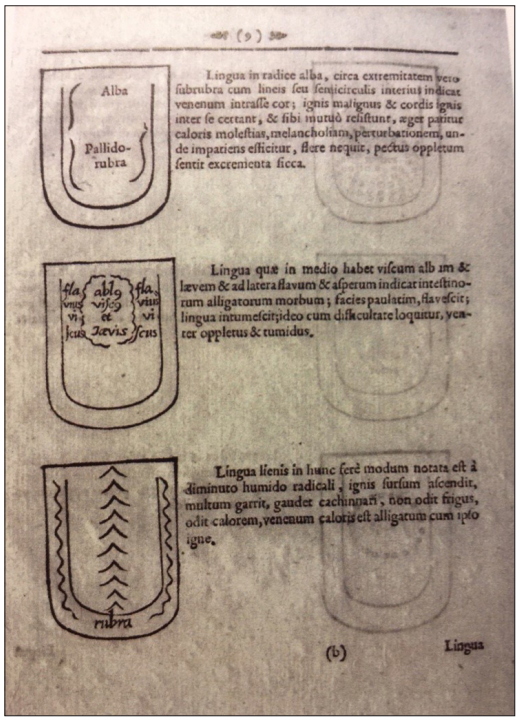


Figure 4 Illustrations of tongues 15, 16 and 17 from Cleyer's *Specimen*, Courtesy of the Countway Library, Harvard Medical School, Boston

Key to Latin captions:

Tongue 15: *alba* = white; *Pallido-rubra* = pale red.

Tongue 16: *alb,[albus], visc.[viscus] et laevis* = white smooth coat; *avius [avus]* = yellow coat.

Tongue 17: *rubra* = red

Tongue 15 [top]: the tongue is white at the root and reasonably reddish at its end, with lines or semicircles more inwardly, indicates that poison enters the heart; malignant fire and fire of the heart contest with, and mutually resist, each other; the patient suffers the annoyances of heat, melancholy, and confusion, whence arises inability to endure his suffering; he is unable to weep, and his chest feels full of dry sputum.

Tongue 16 [middle]: The tongue has a white smooth coat in the middle, and is yellow and rough to the sides, indicating that the disease is being held fast in the intestines; the face gradually becomes yellowish; the tongue swells up; for that reason, he speaks with diffculty, and the stomach is full and swollen.

Tongue 17 [bottom]: An approximation to a tongue of splenic type is shown here which is from lessened natural damp with ascending fire; the patient gabbles excessively is pleased to laugh immoderately, is not displeased by cold, and hates heat, the poison of heat having held fast together with that self-same fire.*

* Translations of these three Latin tongue descriptions in the Cleyer text are taken from Lessell, 2006, p.336.

> any Pulse for himself, from the basic signs which they produced in the Tongue, he was able to distinguish the power and characters of diseases of malignant febrile type, truly to a most excellent degree.[99]

As an advertisement for usefulness, it would be difficult to better. The reader is given the author of the text's assurance that mastering the information on tongue appearance enabled him, and would by extension enable the reader, to diagnose serious febrile disease 'to a most excellent degree' without resort to any other diagnostic skill.

The concluding note is less an advertisement and more an extenuatory note and an exhortation to physicians.

> This little treatise has been translated most accurately [*ad verbum*] from the Chinese, and, in the same spirit, any motive for a neat and polished dissertation must be dismissed, but I prefer to say that the Chinese Doctor, in relation to the individual imperfections or signs of the tongue, has an appropriate medicine and means of cure; though it has not pleased me to place this before you, because they consist of herbs and other things which are unknown in

99 Ibid. pp.326–327.

> Europe. These, moreover, have been achieved by long usage, or rather, experience; and the European Doctor owes it to himself to appropriate such experience with these models.[100]

While this disclaimer might be seen to make the preceding text less useful, it also conjures up a stereotypic narrative that serves to delineate the different cultures attending the practice of medicine in Europe and Asia. It is, however, a particularly intriguing statement to find in the *Specimen*, given the content of the preceding sections. Hanson and Pomata declare that '…we first find Chinese formulas translated into Latin with the goal of publication for a wide European readership in *Specimen Medicinae Sinicae* (1682).[101] Consequently, the question arises, given the muddied provenance of the text, as to whether the information on the 'appropriate medicine and means of cure' was intentionally omitted or simply unavailable to the editor.[102]

Nonetheless, in one fell swoop Cleyer absolved European physicians of the need to learn Chinese drug therapy, and opened the door for any physicians coming across the text to learn to use it on their own terms – '... to appropriate such experience with these models'. For European practitioners who were focusing on the 'new' and the 'observed', this would have been a not uncommon sort of exhortation.

As a matter of interest, I offer an image (Fig. 5) that was submitted along with Cleyer's manuscript for publication. For uncertain reasons, possibly cost, it was not included in the final publication. The images here are fascinating for their embodied rendering of the tongue. The depiction of a patient's face, with an extended tongue, is never seen in Chinese publications of the era.[103]

In his study of Greek and Chinese medicines, Kuriyama poses a question: 'What separates the language of exact judgment from that of extravagant imagination?'[104] It is a question that resonates with the differences between the pulse and the tongue sections of the *Specimen*. Arguably, in the process of palpating a patient's pulse, there is an essential interpretive function that allows a physician to transform the sensation beneath the fingertips to a description of a bodily state. Whether this interpretation is close to or distant from 'extravagant imagination' is difficult for a third party to say. Only the person taking the pulse can know what they are feeling. It is extremely difficult, if not impossible, for a third party to ascertain that it is exact judgement.

---

100 Ibid. p.345.

101 Hanson and Pomata, 29017, p.7. The earlier treatise on Chinese medicinal plants, *Flora Sinensis* (1656) by Michael Boym, set out particular medicinal plant and their uses, but did not include recipes.

102 As we are now reasonably certain that Cleyer was more editor than author, relying on the work of both Boym and Couplet, we must also allow for the possibility that he may simply have been unable to procure all of the relevant information on the associated formulae before publication.

103 It is not until photographic images are used to portray tongues in the 20th century that we see a face, and then usually only a section of the face, depicted along with tongue presentation.

104 Kuriyama, 2002, p.75.

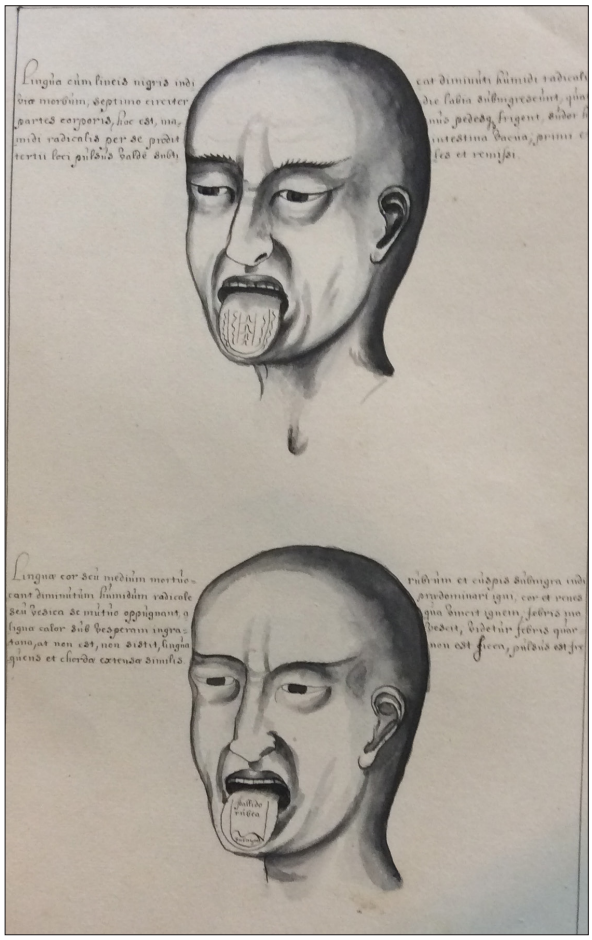


Figure 5 Unpublished image depicting (top) a lined tongue, and (bottom) a pale red tongue. Staatsbibliothek MS Lat. 95, fol. 118, Courtesy of the Staatsbibliothek, Berlin

On the other hand, the possibility of exact judgment seems within reach when a physician observes a tongue. A red tongue is not black, a white coating is not yellow, and the judgment as to which is which is not controversial or dependent upon imagination, extravagant or otherwise.

In describing the difficulties of translating ideas, Harold Cook states that the things that cross between languages tend

> to be those of the world of objectivity: of plain nouns, adjectives and verbs that refer to what the senses tell us. Abstract concepts crossed much less readily. ... Culture certainly made translating the whys and wherefores as understood by one group extraordinarily difficult.[105]

The unique quality of the tongue treatise is that unlike the previous sections of the *Specimen* that dealt with theory, it was largely an image based text. The drawings showed tongues with particular presentations. The associated explanations described exactly why the tongue looked as it did, such as with tongue #16 above which we are told describes 'a disease being held fast in the intestines'. If a European physician did come across this text, the image

105 Cook, 2007, p.377.

of a tongue appearing thus, connected to bodily symptom described thus, would not have presented obstacles to understanding. The further suggestion that this same physician might then select known remedies to address the situation would tether this new image-based information in what Cook describes as 'what the senses tell us'. This applies whether or not the information in the *Specimen* was in fact utilized at the sharp end of a clinical encounter. I must reiterate that I have not found any textual evidence of a particular physician using the *Specimen* as a diagnostic tool in their clinical practice. I simply point out that the information in the text would have been comprehensible and possibly of interest to physicians in a world in which medical interventions were still rather impotent in the face of febrile contagions.

Fevers, Tongues and Thomas Sydenham

As we saw earlier in the discussion of tongue inspection in China, tongues were inspected with increasing frequency in situations of febrile illness. In 17th century England, this also shows itself in the writings of Tomas Sydenham (1624–1689), often referred to as the English Hippocrates. Sydenham had quite a lot to say about febrile illness, which swept through seventeenth London with savage regularity, as the following partial selection of his chapter headings testify.[106]

The epidemic constitution of the years 1661, 1662, 1663, 1664 at London
The continued fever of the years 1661, 1662, 1663, 1664
Of the intermitting fevers of 1661, 1662, 1663, 1664.
The epidemic constitution of the years 1665 and 1666, at London
Of the pestilential fever and plague of 1665 and 1666
The epidemic constitution of the years 1667, 1668 and part of 1669, at London
Of the regular small pox for the years 1667, 1668, and part of 1669
The continued fever in the same years.
The epidemic constitution of part of the year 1669, and of the years 1670, 1671, and 1672.
Of the cholera morbus of the year 1669
Of the dysentery of part of the year 1669, and of the years 1670, 1671, and 1672
Of the measles of 1670
Of the anomalous, or irregular small pox of the years 1670, 1671, and 1672
Of the epidemical constitution of part of the year 1673, and the years 1674, 1675
Of intercurrent fevers
Of the scarlet fever

In noting tongue appearance in these writings on febrile illness, Sydenham refers to the colour of the tongue and its coating, if any, as well as the moisture and texture of the

106 Swan, 1742, pp.13, 15, 44, 69, 70, 94, 95, 125, 1334, 141, 161, 167, 187, 222, 226.

tongue, as in its being dry or excessively wet, rough or smooth. He makes note of changes in tongue appearance that follow changes in the body's temperature.

> 6. When the fever was suffered to proceed according to its own nature, the tongue was not dry, and but little altered in its natural colour, only it was whiter; 7. The thirst was inconsiderable; 8. But when the heat was increased beyond the degree common to this fever, the tongue appeared extremely dry, and of a deep yellow colour... .[107]

His description here is not dissimilar to the progression of febrile intensity described in Cleyer's *Specimen*, in which the descriptive text accompanying the first tongue image states, 'A yellowish tongue indicates a change in the fever, with the malignity nearly entering the interior regions...',[108] the fourth tongue description documents a changing tongue presentation in the course of an illness, 'A tongue with a white coat, and thereafter a yellow and red one...,[109] and the 18th tongue image's descriptive text reads, 'A yellowing tongue...indicates a poison of heat entering the intestines; and because this heat grows large... .'[110] Sydenham, however, begins with the disease category, such as intermittent fever, and the appearance of the tongue, when given, is added to other associated symptoms. In contrast to the *Specimen,* what we do not see in his work is a collection of tongue appearances which themselves indicate particular diseases or illness locations.

What Sydenham has in fact provided is a familiar referencing of the changing appearance of the tongue during febrile illness. In his work, we can see that he is looking closely at a series of febrile epidemics, noting them by year and disease type. With such close attention to febrile illness over a number of years, we would expect his references to tongue appearance to be fairly numerous and descriptive, and he does not disappoint. However, despite the more detailed descriptions of observed tongues, we are still not seeing a system of diagnosis which pairs given tongue presentations with particular diagnoses or treatments. It appears to me that Sydenham would have been fascinated with the Cleyer translation had it been available to him.

The Tongue in 18th-Century Medical Writing

In this section, I will present a series of medical writings in which their authors pay particular, if somewhat varied in quality, attention to the tongue. The passages, individually and as a group, show both the presence of tongue inspection and the lack of any diagnostic system attached to it. Physicians did indeed observe the tongue at least some of the time in

107 Rush, 1815, p.188.
108 Cleyer, 1682, p.4
109 Ibid., p.5.
110 Ibid., p.18.

the 18th century, and the things they looked for varied quite a bit from doctor to doctor. As with the case records in China, I will not be focusing on tongue references which reflect physical difficulties, such as paralysis or the tongue, malformation, tumours of the tongue or its inability to perform the function of speech. I will be focusing on the instances in which physicians observe the tongue of a patient during the course of a disease. The mentions of tongue appearance recorded by the following physicians share a significant quality with those recorded by Chinese physicians – they cluster around diseases with febrile aspects.

In 1713 James Harvey (*fl.* 1700) wrote *Praesagium Medicum, or the prognostick signs of acute disease*, with a preface to the 1720 edition by William Cockburn (1669–1739). There are several things to note about this text, the first of which is that Harvey makes a plea in it for close observation. He refers to 'brighter minds' who have '...taught us to reason clearly and intelligibly upon natural appearances, instead of amusing ourselves with precarious hypotheses and conjectures'.[111]

Just after the above statement, Harvey refers to a work by the physician George Cheyne, who also argues for close observation. Its lengthy title is a testament to the varied medical theories and practices of the era, and the search for innovation: *A New Theory of Continual Fevers, Wherein besides the Appearances of such Fevers, and the method of their Cure, occasionally, the structure of the Glands, and the manner of Secretion, the Operation of Purgative, Vomitive, and Mercurial Medicines, are Mechanically explain'd.*[112] As Cheyne's book discusses fevers, I searched for mentions of tongue presentation. There were none.

But returning to Dr. Harvey, he does observe the tongue, and with more detail than I have thus far been able to discover in the writings of his contemporaries. Chapter XIII is entitled *Of Prognosticks taken from the Appetite, Colour of the Face and Eyes, Cheeks and Tongue, and adjacent Parts.*[113] He notes that Hippocrates observed that the tongue points out the various and predominant humours of the body and that while other signs may be deceptive in diagnosing disease, the tongue is not likely to be so.[114] Harvey is in fact quite loquacious regarding the tongue.

> But the most remarkable *Appearances of the Tongue* are its Colour and Driness, Softness, Roughness and Inequality, and that sometimes 'tis covered with hot small Tumors, and sometimes with those that are cold; that 'tis sometimes affected with immoderate thirst, and sometimes with none at all; that sometimes 'tis so much swell'd and enlarg'd that it cannot be contained in the Mouth, so that many have been suffocated by it; And sometimes 'tis extreamly diminished by intense Heat and Inflamation, which is no less dangerous. All which

111 Harvey, (Cockburn's Preface), 1720, p.xii.

112 Cheyne, 1701.

113 Despite Harvey's significant observations of the appearance of tongues, it is worth noting that if we consider the three diagnostic features of the pulse, the urine and the tongue, chapter V's 16 pages are entirely devoted to the pulse, chapter VI's 15 pages are devoted to the urine, but chapter XIII's 17 pages divide their attention among the appetite, face, eyes, cheeks, tongue, *and adjacent parts.* Clearly the tongue hasn't achieved parity of importance with the pulse and urine.

114 Harvey, 1720, p.177.

> various and different Affections of the Tongue, being justly ascrib'd to a Fervency in the Blood, and Consumption of its Serum, or to an over-great plenty of flegmatick and watery Humors; the Prognosticks taken from it will be plain and obvious. The Tongue for most part is dry in all Feverish Distempers; and as the Feverish Heat and Inflamation is increased, so is its Driness, until at last it comes to be withered, hard, and unequal, cleft, ulcerated and black etc. For in every Distemper accompanied with a Fervency in the Blood, the Lymph and Humidity of the Parts must necessarily be exhausted, especially that of the Tongue, and the Fibres everywhere distributed through it, render'd rigid and contracted. Hence is its Roughness, as its blackish Colour is probably owing to the Blood, which wanting a due proportion of Serum, is the more disposed to stagnate under its Surface; or, the thinner part of the Blood being evaporated, its grosser Parts thereupon become less flexible, earthy and dry, representing a darkish Colour. [115]

This is a description of rich possibility in regard to tongue appearance, which includes colour, moisture, texture, size and ulceration. The relationship between the tongue and the body's humours and blood are clearly identified. While Harvey is not setting out a system of tongue diagnosis, the tongue qualities he describes are amenable to the descriptions in Cleyer's *Specimen*.

I refer to the following physicians and selections from their work in order to demonstrate attention to the tongue in publications of the 18th and 19th centuries in Britain. I have chosen these particular physicians as they illustrate different foci of medical writing, with their publications ranging from scholarly theory, to textbooks, letters discussing patients, professional journal publication, a text on innovative diagnostic use of the tongue and a prominent lecture. In chronological order, Peter Shaw catalogued diseases in a work reputed to be drawn from the practices of leading London physicians of the time.[116] John Coakley Lettsom's publication highlights the writings of physicians for and to each other, with references to their cases. Marshall Hall published a clinical textbook dedicated to diagnosis, and Edward Williams is the first western physician I have found whose work focuses specifically on the tongue and its appearance in disease. Dr. E.L. Ormerod published a case in *The Lancet* which demonstrates a near daily attention to the presentation of the patient's tongue. Benjamin Ridge's work demonstrates another first in western medicine as he maps the body's organs onto specific areas of the tongue. A.W.Barclay published a late 18th century diagnostic manual, in which tongue presentation was seen as important enough to be a standard note in the recording of cases. Finally, W. Howship Dickinson presented a Lumleian Lecture devoted to the appearance of the tongue in disease. Selections of their work follow.

Peter Shaw (1694–1763), authored *New Practice of Physick*, in 1726. This book has no specific chapters on the tongue, but there are various descriptions of the tongue in disease, some of which follow below.

---

115 Harvey, 1720, p.178
116 Golinski, 2004.

> Phrenitis[117] presents with a black, dry, rough, white or yellow tongue.[118]
>
> Inflammation is accompanied by dryness and whiteness of the tongue.[119]
>
> A person who is sanguine is said to have a red tongue and sweet taste, the choleric person has a yellow tongue with a bitter taste, the pituitous person has white tongue and a sweet taste, and the melancholic has an acid taste and a brown tongue.[120]
>
> When suffering from terrible thirst, the tongue appears dry and white or black.[121] A dryness of the tongue and thirst is caused by a defect of saliva owning to the heat and motion of the body.[122]

Shaw goes on to tell us that with plague, the tongue is unreliable, as it often gives no sign, but at other times it can be black and dry, and with some people, either white or natural.[123] His attention to the tongue is interesting in that he is using its appearance to signify both febrile illness and humoural states.

John Coakley Lettsom (1744–1815) published *The Works of John Fothergill, M.D.*[124] in 1784. These are collected essays and letters circulated among physicians. Some are quite lengthy essays detailing cases of a particular illness. Others record a particular physician's experience of a particular epidemic. Such is found in a letter Fothergill (1712–1780) wrote to a Dr. Watson in July of 1769, describing an 'epidemical catarrh'.

> The symptoms of this catarrh are, a short frequent tickling cough, exactly like the cough which attends the measles; some at first seized with sneezing. In a few days the fever begins, with a quick frequent pulse, a hot and sometimes a moist skin, and a white tongue.[125]

From an essay on putrid sore throats, many cases of which affected children, Fothergill noted the following tongue presentations.

> The tongue is generally moist, and not often furred: in some nevertheless it is covered with a thick white coat or fur, and these generally complain of soreness about the root of the tongue.[126]

The collection of Fothergill's essays provide an intriguing look at the correspondence between physicians, describing their observations of diseases running their course.

Humoural medicine may then have been in its twilight in Europe, but febrile infectious disease certainly was not, and the description of a patient's tongue was not an uncommon

---

117 A term denoting fever and delirium.
118 Shaw, 1726, p.29.
119 Ibid., p.66.
120 Ibid., p.69
121 Ibid., p.70.
122 Ibid., p.120.
123 Ibid., p.165.
124 Fothergill and Lettsom had similar backgrounds, both being Quakers, both beginning their medical careers apprenticed to apothecaries in Yorkshire, and both studying medicine at St. Thomas' Hospital in London. Fothergill was a mentor to the young Lettsom.
125 Lettsom, 1784, p.638.
126 Ibid., p.205.

note in either medical texts or case records, particularly with the discussion of febrile illness. When the appearance was noted, however, it was generally more descriptive than diagnostic.

It is also notable that unlike in the original Chinese tongue text, the *Jinjing lu*, there are no drug recipes in these European records that accompany particular tongue presentations.

As Cleyer stated in his *Specimen*, he chose not to include Chinese drug recipes in his translation of the tongue text. However, he did include some medical practices, such as the application of moxa to particular areas of the body, bathing the patient with water, or applying washes of honey, that would be indicated by particular tongue presentations. In the European writings I have thus far read, I see no such correlation by the end of the 18th century.

19th-Century Expansion of the Tongue's Usefulness

The early 19th century saw the rise of what became classified as 'hospital medicine'.[127] The old model of 'library medicine' was supplemented, as we saw above, by observational skills honed by physicians in physical examinations of many patients in the hospital setting. An accompanying increased focus on anatomy and dissection allowed pathological changes in the organs to be recorded post-mortem, and compared with the clinical notes of these same patients pre-mortem. The middle of the century would see a further shift, as hospital medicine was replaced by the even newer 'laboratory medicine'.[128]

Illness was coming to be seen not so much as particular to an individual as a unique whole in his or her own setting, but rather the result of specific disease entities which showed common traits regardless of the individual sufferer. Under the new schema, diseases were localized first to the organ, and later to tissue and cell. The focus therefore shifted from the whole body to the diseased part. The emphasis was less on symptoms reported by the patient, now seen as subjective, and more on signs that could (in theory) be objectively measured, often with the use of instruments by the doctor.[129]

In the 19th century objective observation was something to value, and the tongue had a role to play.

---

127 The significance of hospital medicine, in Paris and Edinburgh in particular, has been written about by many scholars, a few of whom are Ackernecht, 1967, Bynum, (ed) 1994, Granshaw and Porter (eds) 1989, Wear (ed) 1992, French and Wear (eds) 1991. The importance of Michel Foucault's *Birth of the Clinic* cannot be overestimated. Other scholars, such as Gelfand, 1980 and Warboys, 2011, argue for a lengthier continuum than the commonly held timeframes to be associated with key turning points in the history of medicine in the 18th and 19th centuries.

128 Ackerknecht, 1967, p.xi.

129 Granshaw, in Wear, (ed.), 1992, p.204.

New Writings on the Tongue

In 1817, Marshall Hall (1790–1857) published *On Diagnosis.* This was a clinical textbook in four parts, written by a former senior president of the Royal Medical Society and physician at the Royal Infirmary in Edinburgh. In his preface to this book, Marshall Hall writes,

> But it is proper to state first, that the science of medicine is ultimately and more than any other, the science of observation; from observation every new fact, both in the discrimination and in the treatment of diseases, must eventually flow.[130]

In accord with his plea for observation, he includes a chapter on the observation of the tongue. The topic is organised according to the tongue in fevers, the tongue in disorders of the digestive organs, and finally, miscellaneous observations on the tongue. The qualities of the tongue deemed important to note are set out in the following chart (Fig. 6).

Hall goes on to list tongue appearance in the various types of fevers, including brevis, acuta, acute symptomatic, lenta, chronic symptomatic, mild and severe febris gravis, low symptomatic and intermittent fevers. He goes on to describe the tongue with gastric disorders, paying close attention to the state of the tongue's papillae, which, we will see later, aroused another physician's interest. Certainly, attention is paid to the tongue in this book, but it is still difficult to call it diagnostic attention. For instance, in his discussion of chronic dyspepsia, he says the tongue is usually a little white, which can appear as very minute grains. He then adds,

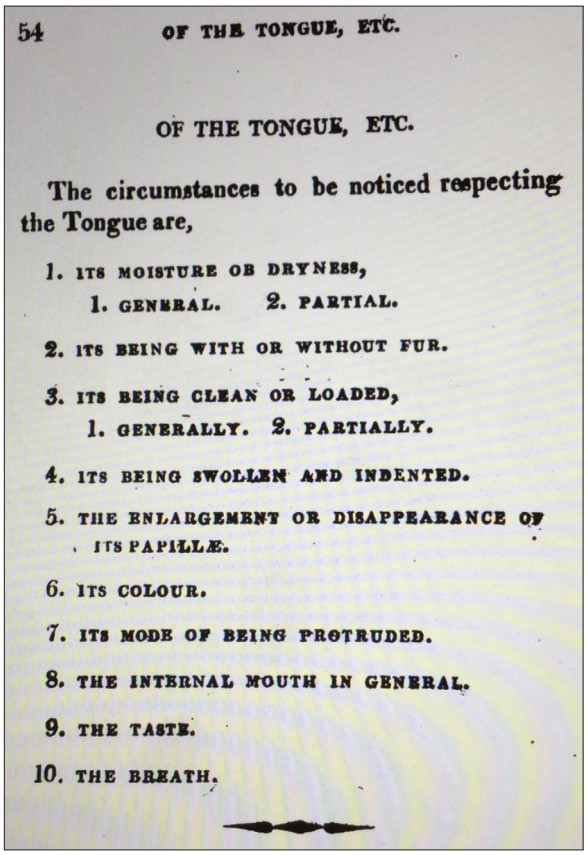
> In addition to these observations, it may be useful to add that in the various and multitudinous forms of Disorder of the Digestive Organs and of Nervous Affection, the tongue should be particularly examined: – a degree of diffused load; a number of minute papillae, especially at the point of the tongue; or a slight appearance of tumidity and indentation, may frequently be observed on a careful inspection, which might escape a less attentive observation.[131]

While this may well be true, it is difficult to see what specific diagnostic value these additional things to look out for might have held for the physician.

In 1846, Edward Williams (M.B. 1832; M.D. 1844) published *An Essay on the Tongue In Functional Derangement of the Stomach and Bowels, and on the Appropriate Treatment, also, the Tongue's Aspect In Organic Disease Of the Lungs And Heart, etc. etc.* (Hereafter, *Essay on the Tongue*) His preface states:

> The circumstances that led us to undertake an *Essay on the Tongue*, were, from observing the variations of the tongue's surface in functional derangement of the stomach and bowels; from the numerous but scattered observations of medical writers on this subject; from the want of precision in the language used; and from the absence of any arrangement of such facts.[132]

130 Hall, 1817, p.vi.
131 Hall, 1817, p.59.
132 Williams, 1846, p.v.



54 OF THE TONGUE, ETC.

OF THE TONGUE, ETC.

The circumstances to be noticed respecting the Tongue are,

1. ITS MOISTURE OR DRYNESS,
   1. GENERAL. 2. PARTIAL.
2. ITS BEING WITH OR WITHOUT FUR.
3. ITS BEING CLEAN OR LOADED,
   1. GENERALLY. 2. PARTIALLY.
4. ITS BEING SWOLLEN AND INDENTED.
5. THE ENLARGEMENT OR DISAPPEARANCE OF ITS PAPILLÆ.
6. ITS COLOUR.
7. ITS MODE OF BEING PROTRUDED.
8. THE INTERNAL MOUTH IN GENERAL.
9. THE TASTE.
10. THE BREATH.

Figure 6 List of tongue features for observation in Hall, 1817

Williams thought that the most significant aspect of tongue presentation was whether its papillae were developed enough to be seen, or if they were not observable. He determined that if the papillae were 'prominent or florid' there would be gastric symptoms. This led him to define 'the tongue of gastric functional derangement'. He went on to determine that when the papillae were not observable, there was a disturbance of the intestinal canal, which he described as 'the tongue's aspect in functional derangement of the intestine'. This appears to have been a sea change in European tongue lore. Williams was not stating a disease, followed by varied symptomatic bodily appearances, one of which was a tongue. He was saying that if you see this sort of tongue, this is the symptom that will go with it. By way of illustration, I quote from his opening chapter of functional derangement.

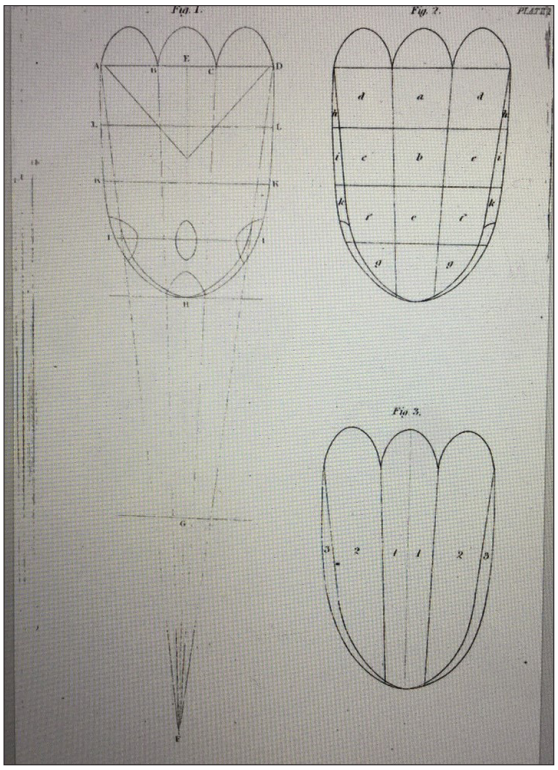
> With a *florid* and clean tongue, the filiform papillae being vascular, there was nausea, or vomiting, or a gnawing sensation in the gastric region. When the tongue was florid and furred, there was headache accompanying the painful or uneasy state of the stomach. But, when in addition to a florid and furred state of the tongue, it was also tremulous, giddiness with nausea, and gastric pain was observed.
>
> When the tongue was *anemic* and clean, the filiform papillae being florid, there was giddiness, or headache, and a painful or irritable state of the stomach. When the tongue was anemic, clean, tremulous, there was throbbing of the head or headache, the stomach being slightly irritable with loss of appetite. When the tongue was anemic and furred, pain or

> heat of the stomach was chiefly felt, with a slight tendency to hemicranias, [133]or to fugitive[134] pains.[135]
>
> When the tongue was florid and furred, [there was] thirst, flatulency and heartburn, or pain, anorexia, and craving.[136]
>
> Furred with a dry mucus, the stomach and head were coincidently affected.[137]
>
> With a uniformly florid tongue, and furred, or coated with a dry fur, or fissured, or tremulous, or fissured and tremulous, constipation was a very prominent symptom, or gastric irritation, either of which seemed a prevalent source of complaint, headache and fugitive pains appearing to coincide. [138]

This essay is replete with statistical tables, showing numbers of cases, types of tongues, and the qualities of each. Above is an example of his statistical compilation (Fig. 7).

Change Above to Below — [placement has changed.]

There is another area in which Williams' work departs from earlier western writings on the tongue. For each type of tongue presentation that he describes, he offers a treatment. Below Table 2 shows two types of tongue presentation and the possible treatments to be given.



INCORRECT IMAGE HERE

Figure 7 Williams, *Tongues and Symptoms*, 1846, p.149

133 A primary, chronic, daily headache disorder.
134 Fugitive pain describes pain that changes location, is not fixed.
135 Williams, 1846, p.7.
136 Ibid. p.18.
137 Ibid. p.139.
138 Ibid. p.145.

Table 2 Tongue Appearance Denoting Required Treatment

Florid and clean tongue	Florid and furred tongue
Morphia or Sedatives	Purgatives
Nitrate of Silver	Purgo-tonics
Antimony	Antimony and Purgo-tonics
Mercurial and Opiates	Mercurial and Morphia

As discussed earlier, Andreas Cleyer declined to include the drug recipes used in China to treat the tongue presentations in his treatise, as they were unknown in Europe and beyond the medical expertise of European physicians. He finished by saying '...the European Doctor owes it to himself to appropriate such experience with these models.' As asserted earlier, I have not found any direct link between Cleyer's *Specimen* and the treatments according to tongue presentation recorded by Williams. But what we can see is that by the middle of the 19th century a European physician was prescribing particular medications according to particular tongue presentations and publishing the information.

One further example of a physician paying close attention to changes in tongue appearance during the changing course of an illness is that recorded by Dr. E.L. Ormerod (1819–1873) and published in *The Lancet* in 1846. This is a case of 'Fever, with Rubeloid Eruption; Relapse, with Stress of the Disease on the Lungs; Recovery'[139] which Dr. Ormerod treated at St. Bartholomew's Hospital in London. The patient in question is identified as George B., aged 18 years of age. In this case of 32 days' duration, Ormerod makes a record of 14 observations, from day 6 through day 32. In the following table, we see that in all but the last two observations, he notes either tongue appearance or pulse presentation, or both. In two of the observations, we find tongue but not pulse, and in one, we find pulse, but not tongue.

Dr. Ormerod's daily notes on the appearance of his patient's tongue, the rate and quality of their pulse, and the prescriptions he made for drugs, dietary supplements and treatments to the body follow in Table 3, compiled by author.

139 Ormerod, 1846, pp.681–683.

Table 3 Case of Fever with Rubeloid Eruption: Progression Table (compiled by the author)

Day	Tongue presentation	Pulse rate and quality	Medication and therapy
6	Moist, with thick white fur. Clean and red at the tip and edges with thick white	84; small and soft	Warm bath; saline, with ipecacuanha wine
7	As yesterday	108; soft	continue
9	Thicker fur	96; small and feeble	Wine, beef tea; compound mercury and chalk pill
10	Dry and red with broad, dark brown central streak	124; small and soft	Continue pill. Cold lotion to head
11	Cleaner, still dry and brown in the centre	Not noted	Ipecacuanha wine; compound spirit of ammonia; mucilage; blister plaster to front of chest
12	Moist, with thick, rough, yellow fur	Not noted	Continue
14	Clean and moist	96	Leave o the pill
15	Thin, rough fur	108; small and soft	Continue
16	Clean and dry in the centre	124; small and soft	Blister plaster to abdomen
18	Clean at the tip and edges, furred on the dorsum	112; small	Cupping beneath right scapula; compound mercury and chalk pill
19	Thin fur, rather dry on the dorsum.	108; small and soft	Blister plaster below right mamma. Continue
20	Red, rather dry	92; small	Continue pills; ipecacuanha wine; mucilage
22	Not noted	84; soft	Continue
28	Not noted	Not noted.	Not noted
32	Not noted On this day, all medication discontinued. Patient discharged a few days later	Not noted.	Discontinue all medicine

Ormerod certainly appears to find at least as much importance in the changing appearance of his patient's tongue during the course of this illness as he finds in the rate and quality of their pulse. What we cannot know, as he does not tell us, is what specific diagnostic information the changing tongue presentation gives him. It is also not clear what certain tongue presentations indicated to him regarding the medications he then prescribed. For instance, on both day 11 and day 20, ipecacuanha wine was prescribed, and the tongue was dry on both days. However, on day 6 the wine was also prescribed, and the tongue was moist. Pulse presentation does not provide an answer to the use of this drug either, as on both day 6 and day 20 a 'small' pulse is recorded, but on day 11 the pulse was not noted. What we can say is that by the middle of the 19th century in England, it was not unusual for a European physician to make careful medical note of the presentation of a patient's tongue. What drug or therapy intervention this might then signal remains unclear.

The Mapping of Organs onto the Tongue in Western Medicine

1857 saw the publication of *Glossology: or the additional means of diagnosis of disease to be derived from indications and appearances of the Tongue,* by Benjamin Ridge, M.D. (1807–1889),

a member of the Royal College of Surgeons, London. It was based on a lecture given at Guy's Hospital in 1843.

In the preface to *Glossology*, Ridge posed questions that resonate with those that arose during the research for this dissertation about the practice of tongue inspection in western medicine. I find them pointedly relevant enough to quote them at length.

> One thing always struck me as curious – that the tongue should be looked at for information on the state of the system, and, when seen, little or no information derived from it. If it gave information not to be relied on, where was the use of looking at it? Who commenced the practice of looking at the tongue as an indicator of disease? And why have not the followers of that practice reduced its appearances to a system? On mentioning to intelligent non-professional men the probability that some parts of the tongue were more connected with certain organs than with others, and that I believed in such connexions, and even pointed them out, I was always met by the observation that they did not consider this new, and they seemed to wonder at my simplicity in thinking it a discovery: ... I mentioned my discovery to several medical friends...one said it was ingenious; another that he would consider of it; a third would hear nothing at all about it; a fourth listened... .[140]

Ridge later goes on to report remarks of colleagues that aligned with his own observational findings in terms of organ correlation to sites on the tongue. '...a friend had noticed to himself a costive condition of the bowels to be indicated by clusters of papillae on the tip of the tongue.'[141]

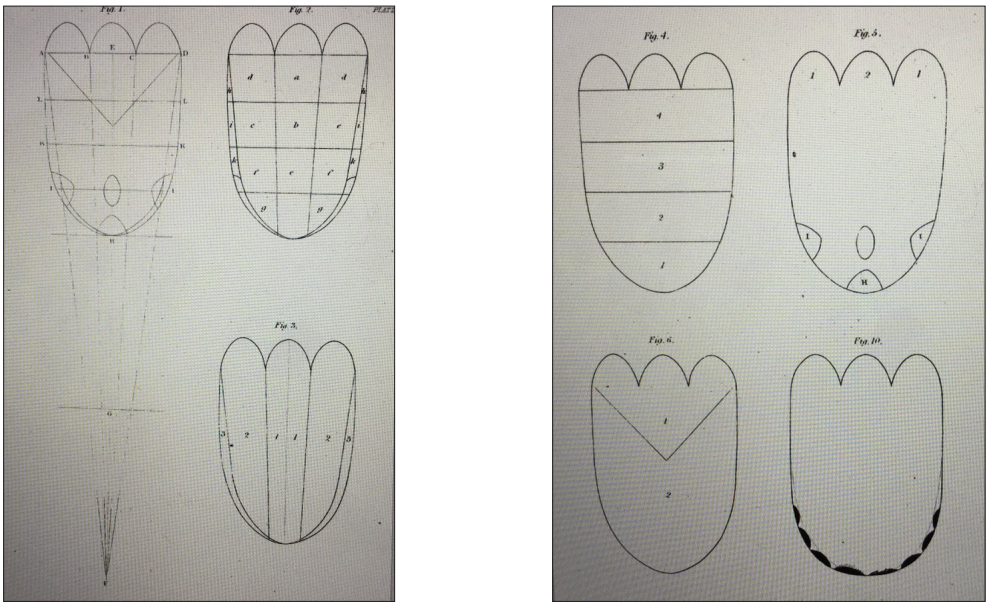
These observations of changes in specific areas of the tongue reflecting episodes of illness were not confined to physicians, and he records a 'non-medical man' saying: '...he always found when he had headach [*sic*] that the edges of his tongue were serrated or rugous'.[142,143]

Ridge's innovation was to divide the tongue mathematically into segments, and to assign to each of these a corresponding organ of the body. I will not go into his rather complex calculations as to how to draw a tongue that is anatomically relevant, but his *figs.* 2 and 5, below (Figs 8, 9), show the areas he believed to be associated with particular organs. He makes particular mention of the heart, describing its overarching significance in his system. 'The Heart, being the great engine for the propulsion of the blood, takes in the whole of the tongue, as will be hereafter explained'.[144]

Ridge's apportionment of organ correlation to tongue sites differs greatly from the Chinese system – apart from his statement that the tongue altogether relates to the heart. But he offers a lengthy list of the various descriptions of the tongue that he found in earlier medical writings, including colour, coatings, state of the papillae, and finally, its general

---

140 Ridge, 1844, pp.5–6.
141 Ridge, 1844, p.8.
142 Ridge, 1844. p.8.
143 I found this statement particularly striking, as it reflects a situation of Spleen and Liver disharmony in Chinese medicine, with which headaches are not uncommon.
144 This corresponds with the Chinese correlation of the heart with the totality of the tongue, in place since the Han dynasty.



Figures 8 and 9 Divisions of the tongue according to Ridge's system: left image: Ridge's figs. 1, 2, and 3; right image: Ridge's figs. 4, 5, 6, and 10.
Ridge's fig. 2: a - larynx and pharyn; b - bronchi; c - bronchi to the pleura pulmonalis; d - pharynx and oesophagus; e - stomach, duodenum, liver, spleen and pancreas; f - partly to the above organs, partly to the small intestine; g - the small intestines to the coecum; h - the occipital region; i - the parietal region; k - the frontal region. *Note, there is no 'j' in the scheme*.
Ridge's fig. 5: the oval shape - the pleura pulmonials and costalis; I – the kidneys; H - the large intestines

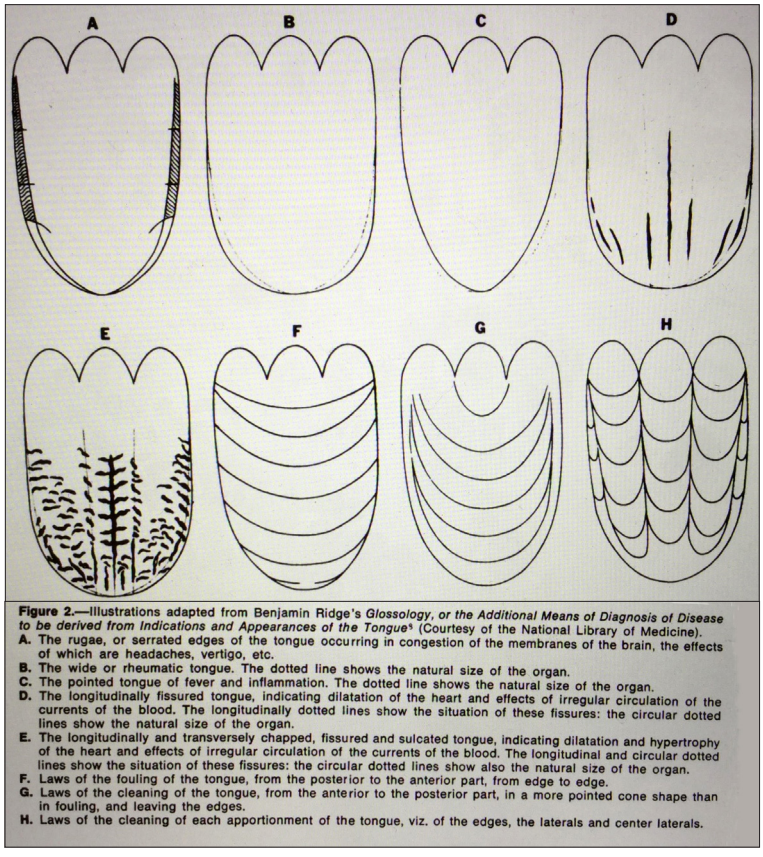


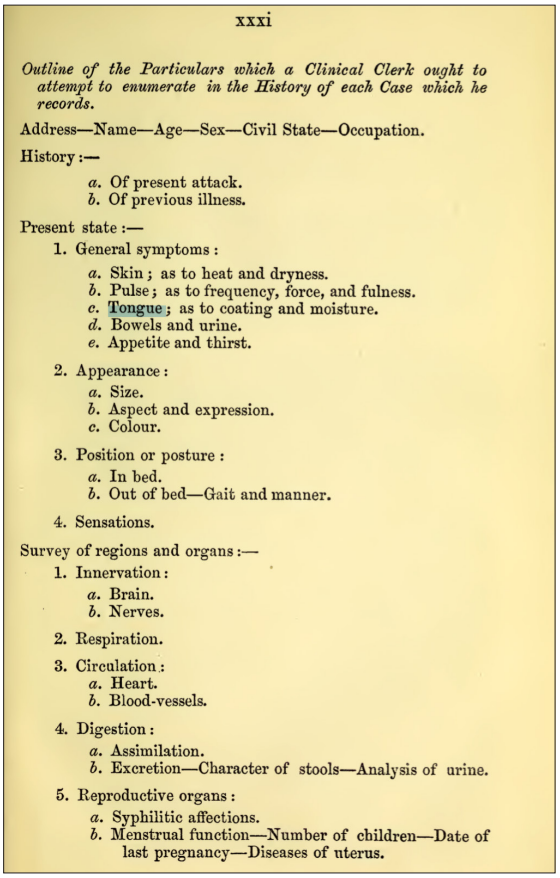
Figure 2.—Illustrations adapted from Benjamin Ridge's *Glossology, or the Additional Means of Diagnosis of Disease to be derived from Indications and Appearances of the Tongue*[5] (Courtesy of the National Library of Medicine).
A. The rugae, or serrated edges of the tongue occurring in congestion of the membranes of the brain, the effects of which are headaches, vertigo, etc.
B. The wide or rheumatic tongue. The dotted line shows the natural size of the organ.
C. The pointed tongue of fever and inflammation. The dotted line shows the natural size of the organ.
D. The longitudinally fissured tongue, indicating dilatation of the heart and effects of irregular circulation of the currents of the blood. The longitudinally dotted lines show the situation of these fissures: the circular dotted lines show the natural size of the organ.
E. The longitudinally and transversely chapped, fissured and sulcated tongue, indicating dilatation and hypertrophy of the heart and effects of irregular circulation of the currents of the blood. The longitudinal and circular dotted lines show the situation of these fissures: the circular dotted lines show also the natural size of the organ.
F. Laws of the fouling of the tongue, from the posterior to the anterior part, from edge to edge.
G. Laws of the cleaning of the tongue, from the anterior to the posterior part, in a more pointed cone shape than in fouling, and leaving the edges.
H. Laws of the cleaning of each apportionment of the tongue, viz. of the edges, the laterals and center laterals.

Figure 10 Ridge's tongue types, in Haller, 1982

appearance. I include my compilation of this last part of the list, general appearance, to demonstrate that western physicians were indeed looking at tongues, and finding words to classify a stunning variety of presentations.

> Aphthous, Oedematous, Chapped, Creased or folded, Dry, Exsanguineous, Flabby, Fissured, Glazed, Indented, Lobulated, Moist, Parched, Papulated, Semi-transparent, Smooth, Swollen, Sore, Sulcated - with or without deep edges, Tender, Tumid, Tremulous, Ulcerated.

In 1870, A.W. Barclay (1817–1884)[145] published the third edition[146] of *A Manual of Medical Diagnosis, Being and Analysis of the Signs and Symptoms of Disease.* This text suggests that the inspection of the tongue by 19th century European physicians was becoming *de rigeur*. The form produced by Barclay detailing the information that ought to be recorded for each patient's case, shown in Fig. 11, is notable in that the tongue's presentation, especially coating and moisture, is given its own sub-category under the topic of General Symptoms, attaining equal billing with skin, pulse, bowels and urine, appetite and thirst.



xxxi

Outline of the Particulars which a Clinical Clerk ought to attempt to enumerate in the History of each Case which he records.

Address—Name—Age—Sex—Civil State—Occupation.

History:—

a. Of present attack.
b. Of previous illness.

Present state:—

1. General symptoms:
   a. Skin; as to heat and dryness.
   b. Pulse; as to frequency, force, and fulness.
   c. Tongue; as to coating and moisture.
   d. Bowels and urine.
   e. Appetite and thirst.
2. Appearance:
   a. Size.
   b. Aspect and expression.
   c. Colour.
3. Position or posture:
   a. In bed.
   b. Out of bed—Gait and manner.
4. Sensations.

Survey of regions and organs:—

1. Innervation:
   a. Brain.
   b. Nerves.
2. Respiration.
3. Circulation:
   a. Heart.
   b. Blood-vessels.
4. Digestion:
   a. Assimilation.
   b. Excretion—Character of stools—Analysis of urine.
5. Reproductive organs:
   a. Syphilitic affections.
   b. Menstrual function—Number of children—Date of last pregnancy—Diseases of uterus.

Figure 11 Standardised Patient Information outline in Barclay's *A Manual of Medical Diagnosis*

145 Barclay was a Fellow of the Royal College of Physicians, and Medical Registrar at St. George's Hospital, London. In the preface to the first edition of the manual, he tells us that while holding this post, 'more than twelve thousand patients came under my notice', and credited his interest in methods of diagnosis to this experience.

146 The first edition of this text was published in 1857, the same year as Ridge's work on Glossology.

The tongue held sufficient interest for Barclay to have noted the value of repeated inspections of the tongue during the course of a disease. In describing endemic fever, he documents the various tongue presentations, and their possible evolving changes, that a physician might encounter.

> [With an endemic fever] the tongue presenting at first very red edges, soon becomes peeled in the centre, is sometimes chapped, raw, and glossy, or, occasionally, with a dry, thin crust over the abraded mucous membrane – perhaps it is evenly and thinly coated, or has a patchy appearance, according to the condition of the intestinal tract.[147]

Scarlatina was another disease that prompted repeated inspection of the tongue.

> In a well-marked case of scarlatina, there are generally to be seen on the tongue a number of round elevated papillae, which, in the early stage, protrude through a white fur, giving it a dotted appearance, and at a later period stand out from the smooth red surface, producing what is generally spoken of as the 'strawberry' tongue. The appearance cannot serve for the diagnosis of doubtful cases, except, perhaps, in a retrospective view.[148]

The last sentence, however, highlights the fact that inspection of the tongue did not yet provide a reliable system of diagnosis.

The Lumleian Lecture of 1888

The Lumleian Lectures were inaugurated in 1582 under the auspices of the Royal College of Physician, and continue as a series of annual lectures. In the early years of the series, a physician might provide the lecture for several years running, as did William Harvey, intermittently, from 1616 until 1656. In 1888, the honour fell to W. Howship Dickinson, Fellow of the Royal College of Physicians. The title of his lecture was *The Tongue As An Indication In Disease*. Its publication ran to 114 pages, replete with statistical tables of 366 cases and images of tongue surfaces 'as seen with the naked eye and with the microscope'.[149] It is indeed a detailed lecture, listing references, made by physicians from Hippocrates to Dickinson's contemporaries, to the appearance of the tongue in illness.

Dickinson's first lecture[150] opens with the statement, 'What has been written with regard to the tongue is fragmentary and discordant,' but he shortly goes on to say,

> Many a practical physician is able to read in the tongue rules of diagnosis, treatment, and prognosis, though he knows not how he acquired the power.[151] ... the labour which has been

147 Barclay, 1870, p.63.
148 Ibid. pp.72, 73.
149 Dickinson in fact created hardened microscopic sections of tongues that he photographed with the camera *lucida*. He records that he worked with 109 different tongues.
150 The 1888 event was a series of three lectures delivered by Dickinson.
151 This statement again raises the question of the possible role of incommunicable knowledge in the transmission of tongue lore. As we saw in earlier chapters, increasingly comprehensive relevance of tongue presentation to diagnostic knowledge was documented in China. This does not, at this point of my research, appear to be the situation in western medicine. However, interesting questions are raised regarding clinical practice more generally in Lawrence, 1985, pp.502–52, regarding what he describes

> bestowed upon the pulse in recent times is in remarkable contrast with the neglect which has been the lot of the tongue.[152]

He does not, however, tell us what these rules of diagnosis, treatment and prognosis comprise. Dickinson goes on to outline his purpose – to examine the subject of tongue appearance with a fresh eye, to collect 'the evidence of the wards and the dead-house', and to create a 'trustworthy and usable' set of terms with which to describe tongue appearance. He does in fact create a concise classification for the transformation of tongue appearance from health, to illness. He sets out stages of addition, in which disease is gathering in strength and stages of subtraction, in which healing begins and proceeds, or may go awry, and provides tongue presentations associated with each.

Table 4 Transformations of Tongue Appearance

Stages of addition (of coating)	**Stages of subtraction (of coating)**
Stippled or dotted, proceeding to stippled and coated	Crust begins to fall off to expose tongue surface, which will slowly return to normal, or an increased fever will produce abnormal tongues without a coat
Coated, moist, proceeding to Coated and dry	Red
Plastered	Denuded
Furred	Raw
Dry and dark incrustation	

Dickinson equates increased coating of the tongue with increased body temperature. He tells us that a Dr. Delephine has proven that as body temperatures increase on the spectrum from 100° F to 104° F tissue growth is encouraged to increase, but as it rises above 105° F this reverses. Tongue coating being essentially a growth of epithelial tissue, he states: 'In pyrexia, therefore, we have, if not the only maker of coat, certainly the chief one'.[153,154]

He makes several pronouncements regarding heat, as in 'If the system at large is unaffected, so, as a rule, is the tongue.'[155] He later repeats this fact in reverse: 'When the tongue is normal, so, as a rule, is the temperature'.[156]

Then, turning to issues of moisture, he says '...a larger proportion of acute disease and of constitutional disturbance is apparent when the tongue is dry than when it is moist'.[157]

as an 'epistemology of individual experience which, by definition, defied analysis'. p.505.

152 Dickinson, 1888, p.23.

153 Ibid, p.52.

154 This presents a scientific aspect to what we saw in the Chinese case records, with mentions of coated tongues clustering around issues of febrile illness, and the absence of coating on tongues whose body turns black in terminal cases.

155 Dickinson, 1888, p.36.

156 Ibid. p.51.

157 Ibid. p.36.

And finally:

> The two factors which stand before all others in the making of the medical indications which the tongue presents, by which I imply those changes which are connected with remote or general states not local disorders, are the heat of the body and the secretion of saliva.[158]

In this statement at least, Dickinson is in agreement with the Chinese physicians whose case records we discussed in Chapter 5. It is, after all, all about heat, which in turn impacts upon moisture.

In his Lumleian lecture, Dickinson provided a plea for recognition of the importance of the appearance of the tongue in the diagnosis and prognosis of illness – but makes no attempt at all to correlate specific tongue presentations with specific diseases, or with pathology in particular locations in the body. On the contrary, he explicitly states that the tongue is an index of constitutional states, and seldom of individual diseases. In a thinly veiled attack on Benjamin Ridge's work – though he does not actually name him – he writes:

> A writer, though one of no great note, has gone so far as to divide the lingual surface into a number of rectangular regions... which he places under the rule of separate organs; the larynx, the bronchi, the lungs, the pleurae, the large intestine, the small intestine, the kidneys and the brain each possessing a distinct territory... But in truth the tongue has no such local signification; it seldom points to solitary organs or isolated disorders, but is rather a gauge of the effects of disease upon the system than an indication as to the locality of it. It is often a guide in treatment, so far as treatment is general, not local; and it is an important help in prognosis.[159]

All in all, by the end of the 19th century, we find the importance of tongue presentation being argued in a prestigious lecture in London, but the lecture's author took pains to make clear that it is a *guide* to treatment and a *gauge* of the effects of disease on a body. Dickinson does not proclaim any diagnostic system regarding the tongue, but makes it clear that one of its most important features is its help in prognosis. He remains far removed from the Chinese physician described in Cleyer's *Specimen,*

> ...who reported on more than one occasion that, despite not having assessed any Pulse for himself, from the basic signs which they produced in the Tongue, he was able to distinguish the power and characters of diseases of malignant febrile type, truly to a most excellent degree.

Conclusions

It became clear during my research that the inspection of the tongue simply does not appear in western medical writings with any sort of frequency or regularity, apart from scattered mentions by some doctors in some cases of febrile illness, and even more rarely in other diseases, before the late 17th century. The medical writings and case records that I have been

158 Ibid. p.110.
159 Ibid. p.109.

able to inspect have all evidenced the fact that in the general practice of this period, pulse palpation and the inspection of the urine were prevalent diagnostic practices and records of physicians inspecting their patients' tongues were extremely unusual.

As we saw earlier, there were various narratives of things Chinese finding publication in Europe from the late 17th to the early 19th century and the repeat editions of many of these publications indicates that the genre was eagerly received. Offerings ranged from frankly medical publications by physicians and missionaries, such as Cleyer's *Specimen* and Boym's *Clavis Medica*, to more popular accounts by laymen, such as *The General History of China*, authored in French by Du Halde and translated into English by Richard Brookes (1788),[160] and *The Foreigner in Far Cathay*, by W.H. Medhurst, the British Consul in Shanghai (1873).[161] While some of these accounts were aimed at a medical audience, others were far more popular in their orientation, such as *The Foreigner in Far Cathay.* Both of these types of narratives on China impacted on European culture.

The first type of publication offered information directly to medical practitioners, and the second offered a general and popularized 'familiarity' with Chinese culture to the general literate population. Their continuing popularity, as seen with the publications listed in Table 1 in Chapter 6, suggests that the sustained interest in China that suffused the general culture in Britain had a similar enduring impact on practitioners of medicine.

Remembering the publication date of Cleyer's *Specimen*, 1682, it is intriguing that I began to find a record of more frequent references to the appearance of the tongue by western physicians in the early 18th century. While the tongue continued to figure most prominently in cases of febrile illness,[162] I began to find sporadic mentions of the tongue in cases concerning gynaecological and obstetric issues, pulmonary issues, digestive issues and cardiac issues. These references increase in frequency until we see tongue presentations figuring prominently in the medical texts of the late 18th century, followed by the publication of specialist texts on the tongue in the 19th century.[163] Nowhere, however, did I find any reference

---

160 Brookes' dedication of vol.1 to HRH Frederick, Prince of Wales suggests a keen interest at this time in China '…for nothing has a tendency to enlarge the mind more than a view of the manners, customs, policy and religion of a people who once thought themselves the politest in the world'.

161 The publication of this volume by the British Consul in Shanghai 85 years after Brookes' translation of Du Halde is testament to sustained interest on the part of the reading public in Britain. In his preface to the book, Medhurst writes, 'Its aim is simply to enlighten the home public as to the actual circumstances in which residents in that remote region find themselves, and to supply a few scraps of information, part of it hitherto misapprehended, respecting the Chinese themselves.'

162 As we saw earlier, both the Hippocratic and Galenic writings made reference to the appearance of the tongue with febrile illness.

163 The western sources for case records and medical texts that I have used in this thesis come primarily from Britain and North America. However, a research trip to the Sorbonne's medical archives in Paris did nothing to alter my findings. Searching through results for *diagnostique par langue* (diagnosis according to the tongue), early modern references were again merely sporadic, and almost always in relation to febrile illness. In France, as in Britain, writing devoted specifically to the tongue's role in clinical appraisal do not occur until the middle of the 19th century, such as that of Cros, 1862.

made by physicians practicing tongue inspection, to the section of the *Specimen* setting out diagnosis according to the presentation of the tongue.

Among the western medical texts and essays discussed in Chapter 6 that were devoted specifically to the tongue's appearance in disease, only one, that of Benjamin Ridge in 1844, sets out a system in which the appearance of specific areas of the tongue corresponds to particular organs or regions of the body. This resonates with, rather than copies, the concept of associating areas of the tongue with areas of the body and its internal organs which we find in Chinese medicine.[164]

Ridge's work does not appear to have gained wide acceptance or generated much further interest in his ideas among other physicians, as I did not find other authors making use of or referencing his system. However, as we saw above, it did generate a response close to ridicule from Dr. Dickinson. But, that Ridge's work was mentioned at all in the Lumleian lecture, albeit not by name, and derisorily, suggests it was still well known enough at that point to be recognizable to the audience.

Two years after Ridge's publication, Edward Williams' *Essay on the Tongue* (1846) is listed in *The Lancet*, on 14 November as having been received for review, and notes that it is a 2nd edition of the book. Additionally, the *Provincial Medical and Surgical Journal,* in December 1846, lists his book, also a 2nd edition, as having been received for review.[165] In 1847, the *Provincial Medical and Surgical Journal* gave a positive review of the book, stating 'How far the more extended experience of the author, and the observations of others who may take up the subject, may tend to establish, define or modify the conclusions arrived at, time will show best.'[166] Williams' work was indeed diagnostically innovative, as he clearly states that if a tongue shows a particular presentation, the patient then has a particular disease. In other words, this differs from earlier physicians such as Sydenham, who, as I wrote earlier in this chapter, 'begins with the disease category, such as intermittent fever, and the appearance of the tongue, when given, is added to other associated symptoms. What we do not see in his work is collection of tongue appearances which themselves indicate particular diseases'. Williams does in fact make diagnostic statements based on tongue appearance, as we saw earlier when he wrote that when the tongue is florid and furred, there would be thirst, flatulency and heartburn.

The question arises as to whether or not the date of Williams' and Ridge's publications was unfortunate for them in terms of wider recognition. Ridge was after all, proposing a method of general diagnosis focused on the observation of tongue appearance. But by the mid-19th century there had been a turn towards the new laboratory medicine which would

164 The mapping of the body's organs onto specific areas of the tongue was also a relatively recent innovation in Chinese medicine, as seen in the *She Jian Bian Zheng* 舌鑑辨證 (Tongue Mirror for Diagnosis and Treatment) , noted in Chapter 1.

165 *Provincial Medical and Surgical Journal* ,1846, vol. 10, no. 49 (Dec. 9, 1846), p.592.

166 *Provincial Medical & Surgical Journal,* 1847, vol. 11, no. 7 pp.185–186.

arguably have made a strictly observational diagnostic procedure, based on an old clinical behavior, tongue inspection, less than thrilling.[167] By the mid 19th century physicians in Britain would likely have been more interested in perfecting their use of the stethoscope and using chemical reagents to undertake rudimentary analyses of the body's fluids to diagnose diseases and their gravity than to gaze at a tongue.

And yet, clinical use of tongue inspection did not disappear from western medicine at this point, for as we saw in the late 19th century, the prestigious Lumleian Lecture of 1888 focused on the state of the tongue and its relevance to diagnosis. However, this lecture posited the notion that the tongue's diagnostic possibilities lay with determining the general constitution of a patient, not with locating diseases in the body, or even particular disorders.

In any case, in terms of the Chinese tongue text's transmission to the west and its possible influence on medical practice, we are left with both certainties and questions. The certainties, as stated above, are that there are increasing references to inspection of the tongue in physicians' writings during the 18th century following the publication of the *Specimen*, and that the diseases in which tongue appearance held interest for physicians also became more numerous and varied. This is set against the fact that until now, I have been unable to find any direct link between the *Specimen* and the clinical practice of any western physician.

Consequently, I am left with the question as to whether the increasing inspection of the tongue in western medicine was influenced or facilitated in as yet undocumented ways by the publication of Cleyer's translation of the Chinese method of tongue diagnosis, or was there a parallel development that arose at that time in Europe.

The medical publications and discussions around Chinese pulse diagnosis as described in the *Specimen* are widely documented, owing particularly to the works of John Floyer and his development of the pulse watch. The direct correlation between inspiration derived from the publication of the *Specimen* and his own studies of the pulse are clearly stated by Floyer himself. I have found no such specific link between western authors discussing the appearance of the tongue text.

It is perhaps noteworthy that there was no invention facilitating the practice of tongue diagnosis comparable to the one facilitating pulse diagnosis – the pulse watch. Consequently, we can hardly expect to find the same sort of 'paper trail' documenting the influence, if any, that the section on tongue diagnosis in the *Specimen* would have had.

There remains the fact that we know the Cleyer text was published, circulated among and read by physicians. Roberta Bivins writes that:

> By the 17th century, Europeans were drawing distinctions between Chinese expertise in the 'mechanical arts' and Chinese abstract knowledge. While the latter was denigrated as useless,

167 Ridge was not an unknown medical author as a piece 'On the Papillae of the Tongue' was published in *The Lancet*, 1849, vol. 53, p.427.

> or used as evidence of China's inferiority to Europe, the former was advanced as an argument for further exploration and observation of Chinese culture.[168]

While the tongue text did not precisely present a 'mechanical art', it did present tangible images as opposed to tracts of theory. Stripped of the 'abstract knowledge' that accompanied the first five sections of Cleyer's *Specimen*, the tongue treatise provided visual information to be gleaned from the tongue's appearance that a European physician of the 18th or 19th century, should they have seen the text, might well have found diagnostically intriguing.

168 Bivins, 2000, p.2.

Chapter 7

Conclusion

'First you immitate, then you innovate.' Miles Davis

This dissertation has examined the rise of tongue inspection from a marginal practice in Chinese antiquity to a fully integrated diagnostic tool of Chinese medical practice. In the search for the story of the tongue's changing significance in Chinese medicine, my sources were the classical texts of the Han dynasty, Chinese histories, encyclopaedias and case records. Medical treatises from the Han revealed detailed information on the use of the pulse as a diagnostic tool, but little other than prognosticatory asides for the tongue. Case records from the Han, Song, Ming and Qing dynasties allowed me to demonstrate that physicians practicing before the Ming dynasty did not inspect their patients' tongues with any regularity, if at all, or find diagnostic importance in the appearance of the tongue.

The text that is central to this dissertation is the *Aoshi shanghan jinjing lu.* This 1341 text presented 36 images of the tongue, accompanied with drug recipes, instructions for their use, and advice as to the urgency or futility of treatment regarding particular tongue presentations. This is the first detailed description of the diagnostic importance of the tongue, and one of the first, if not the first, illustrated medical texts.

The *Jinjing lu*'s title signals the importance of *shanghan* theory to its author, and the drug recipes included in the text come primarily from the Han classic, the *Shanghan lun.* However, there are hints in the *Jinjing lu's* recipe collection that diagnosis according to the appearance of the tongue was transcending a strictly *shanghan* theoretical framework. Several recipes date from the Song and Jin-Yuan periods, during which epidemic frequency stimulated innovative reworkings of medical theory. The drug recipes of the *Jinjing lu* that post-date the *shanghan* recipes share a common quality, which is that they are crafted to clear heat.

It became apparent to me that the issue of heat was a vital factor in generating increased interest in the tongue. The encyclopaedic collections of case records from the Ming and Qing dynasties provided unambiguous evidence that tongue inspection was becoming significantly more frequent as time went on, but most tellingly, a pattern of tongue inspection emerged. Physicians were far more likely to observe the appearance of a patient's tongue if there was a febrile component to the illness. Tongue references clustered in disease categories in which heat, or fire, would be an expected symptom.

During the Qing dynasty, the medical discourse around febrile illness succeeded in creating a theory of diagnosis and treatment that differed from that of *shanghan,* known as *wenbing xuepai* 溫病學派 (warm disease current of learning). Ye Tianshi was an important proponent of this current, as was Wu Jutong, and the case records of both of these physi-

cians demonstrate frequent observation of tongue presentation. A revolutionary feature that can be seen in several of their case records is the use of tongue inspection as the sole diagnostic tool to determine adjustments in drug recipes.

While *shanghan* theory has been the subject of research, and while the development of *wenbing* has been investigated, this is the first study of the development of tongue diagnosis in relationship to either of these theoretical currents. It is also the first exploration of the possible impact the Chinese system of tongue diagnosis had on the development of tongue observation in Europe.

The Dutch East India Company's global trading network facilitated transnational traffic in medical knowledge, as texts, both observational and in translation, and medicinal substances made their way along sea routes. A Latin translation of the *Jinjing lu* travelled on a Dutch East India ship to publication in Frankfurt in 1682. This dissertation poses questions that might challenge Eurocentric histories of medicine, as my research reveals an increased interest on the part of European physicinas in the appearance of the tongue in the two centuries following the late 17th century publication of the *Jinjing lu*. Tongue inspection was a marginal practice in Europe, undocumented in the medical imagery of the medieval and early modern eras, which provide myriad depictions of urine flasks and pulse palpation. Yet by the 19th century, a system of diagnosis in which organs were mapped onto areas of the tongue had appeared in Britain, and the prestigious Lumleian Lecture was dedicated to tongue diagnosis. There is no lack of medical imagery depicting European physicians inspecting tongues by the late 19th and early 20th centuries. I have not established a direct link between the publication of the *Jinjing lu* and the prevalence of tongue inspection in Europe by the 19th century. I do, however, pose the question as to the possibility of that link.

The *Jinjing lu* revolutionised diagnosis in China, providing physicians with an illustrated manual of 36 tongue presentations, each of which corresponded to an appropriate drug recipe. A Latin translation with 36 tongue presentations arrived in Europe in the late 17th century, detached from its collection of drug recipes, with the exhortation for European physicians to learn to use their own medicinals to treat the conditions indicated. Intriguingly, the information conveyed by the tongue images of the *Specimen* was not dependent upon any understanding of Chinese medical theory.

The tongue has a unique place in the history of Chinese medicine, and indeed, in the history of transnational medicine in the rapidly globalising world of the 17th to 19th centuries. In the Chinese context it stood in a liminal space, between inner and outer, neither an internal organ with discrete core physiological functions, nor an immediately visible part of the surface of the body. It was neither detectable from a distance, nor a site of palpation by the physician. Yet, it shared many of the properties attributed to both spaces. The tongue was at once more corporeal than the pulse or the complexion, both intimately attached to the inner organs and liable to rapid changes during febrile illness.

The tongue offered a quick and easy guide to the aetiology of a patient's illness: first as an essentialised guide to the universally conceived progression of *shanghan,* or cold induced accounts of fever, then as an indication of how to deal with *wenbing*, or warmth induced fever. Ultimately it offered a malleable indication of how one might tailor a remedy to the changes in an individual patient's responses to contagious illness, and indeed to any illness. But throughout this thesis I have demonstrated that the appearance of tongues spoke about fire[1] and heat to transnational audiences, from early Imperial China to London hospitals and lecture halls. This has been a first exploration which I hope has opened up new territory for further research into the tongue's diagnostic legacy.

1 While European physicians wrote about bodily heat, it was a more distinctly Chinese practice to describe bodily temperature in terms of both heat and fire, the latter of which signifies a more severe accumulation of heat.

Chapter 8

Bibliography

Primary Sources

Abel-Remusat, Jean Pierre, 1813. *Dissertatio de glossosemeiotice, sive de signis morborumquae e lingua sumuntur praesertim apud sinenses.* Paris: Didot.

Anonymous. (*c.*1st century BCE), 1991. *Nanjing jiaozhu* 難經校注, Ling Yaoxing 凌耀星 (ed.). Beijing 北京: *Renmin weisheng chubanshe* 人民衛生出版社.

Anonymous (*c.*1st century CE) 1992, *Huangdi Neijing Suwen Jiaozhu* 黃帝內經素問校注, Guo Aichun 郭靄春 (ed.). Beijing 北京: Renmin Weisheng Chubanshe 人民衛生出版社.

Auenbrugger, Leopold, 1936. *On percussion of the chest: being a translation of Auenbrugger's original treatise entitled 'Inventum novum ex percussion thoracis humani, ut signo abstrusos interni pectoris morbos detegendi' (Vienna, 1761).* Baltimore: The Johns Hopkins Press.

Bache, Franklin, 1826. 'Cases Illustrative of the Remedial Effects of Acupuncturation'. *North American Medical and Surgical Journal,* 1826: I, 311–321.

Barclay, A.W., 1864. *A Manual of Medical Diagnosis, Being an Analysis of the Signs and Symptoms of Disease.* Philadelphia: Blanchard and Lea.

———— 1870. *A Manual of Medical Diagnosis: Being an analysis of the Signs and Symptoms of Disease* (3rd ed). London: John Churchill and Sons

Boerhaave, Hermann, 1715 (trans. Delacoste, J.). *Boerhaave's Aphorisms concerning the Knowledge and Cure of Diseases.* London: Cowes and Innys.

———— 1719 (trans. Samber, Robert). *A Method of Studying Physick.* London: C. Rivington.

Boyle, James T., 1825 (2nd edn). *A Treatise on Moxa, as Applicable More Particularly to Stiff Joints*. London: Callows and Wilson

Boym, Michael, [1656] 1730 2 edn (trans. Melchisédec Thévenot). 'Flora Sinensis; ou, Traité des Fleurs, des Fruits, des Plantes, et des Animaux Particuliers á la Chine'. In: *Relations de Divers Voyages Curieux,qui n'ont Point Esté Publiées…*', vol. 1. Paris: T. Moette, 15–30.

———— 1686. *Clavis Medica ad Chinarum Doctrinam de Pulsibus*. [The Medical Key to the Doctrine of the Chinese with regard to the Pulses.] Nuremberg: Wolfgang Endter.

Brasavola, Antonii Musae, 1625. [7th volume of the1 625 Giunta edition], *Index Refertissimus in Omnes Galeni Libros, Qui ex Nona Iunctarum edition extant: In quam, Indicem eorum operum inclusimus, que postremo ad nos perucnere.* Venetiis: Apud Iuntas.

Bretschneider, E., 1881. *Early European Researches into the Flora of China*. Shanghai: American Presbyterian Mission Press.

Bridault, Ami-Felix, 1759. *Thesis medica…Medicinae Sinensis conspectus.* Montpellier: J. Martel.

Buckingham, James Silk, 1829. *A copious report of Mr. Buckingham's lectures on the Eastern world, includ-*

ing remarks on the East India Company's monopoly, renewal of the charter, effects of a free trade to India and China, manners, customs, superstitions, climate, natural history, resources, &c. of the Eastern world, with a great variety of other interesting and amusing information; delivered in Liverpool on the 5th, 7th, 9th, & 10th January, 1829. Liverpool: Smith.

Chao Yuanfang 巢元方, [610] 1991. Zhubing Yuanhou Lun Jiaozhu 諸病源候論校注, Ding Guangdi 丁光迪 (ed.). Beijing 北京: Renmin Weisheng Chubanshe 人民衛生出版社.

Cheng Congzhou 程從周, [*c.*1539] 1993. *Cheng Maoxian Yi'an* 程茂先醫案. In: *Xin'an yiji congkan: Yi'an yihua lei* 新安醫籍叢刊:醫案醫話類 (Book 2), Yu Yingao 余瀛鰲 *et al.* (eds). Hefei 合肥: Anhui Kexue Jishu Chubanshe 安徽科學技術出版社.

Cheng Wuji 成無己, [1142] 1990. *Shanghan Mingli Lun* 傷寒明理論, Shanghai 上海: Shanghai Kexue Jishu Chubanshe 上海科學技術出版社.

———— 1144. *Shanghan mingyi lun* 傷寒明理論. (Discussion on Clarifying the Princilples of Cold Damage). [Library archives of the Beijing Academy of Traditional Chinese Medicine].

Cheyne, George, 1701. *A new theory of continual fevers: Wherein, besides the appearances of such fevers, and the method of their cure; occasionally, the structure of the glands, … are mechanically explan'd.* London: H. Newman and J. Nutt.

Churchill, James Morss, 1821. *A treatise on acupuncturation: A description of a surgical operation originally peculiar to the Japanese and Chinese, and by them denominated Zin-King, now introduced into European practice with directions for its performance and cases illustrating its success.* London: Simpkin and Marshall.

———— 1823. 'On acupuncturation'. *LMR,* 19: 372–374.

Cleyer, Andreas, 1682. *Specimen Medicinae Sinicae sive Opuscula Medica ad mentum Sinensium*. Frankfurt: Zubrodt.

Corvisart, J.N., 1812 (trans. Jacob Gates). *An Essay on the Organic Diseases and Lesions of the Heart and Great Vessels. From the Clinical Lectures of J.N. Corvisart.* Boston: Bradford & Read, and Philadelphia: Anthony Finley.

Cros, Antoine, 1862 and 1863. 'De la Valeur des signes diagnostiques fournis par l'inspection de langue' *Gazette hebdomadaire,* t. IX, no 52, et t. X, no 1er, 26 decembre 1862, et 3 janvier 1863.

Dai Tianzhong 戴天章 [1675] 1992. Guang wenyi lun 廣溫疫論, Beijing 北京: Renmin weisheng chubanshe 人民衛生出版社.

Delatour, L-F., 1776. *Essais sur L'Architecture des Chinois, sur leurs jardins, leurs principes de medicine and leur moeurs et usage.* Paris: De l'imprimerie de Clousier.

Dickinson, W. Howship, 1888a. 'The Lumleian Lectures on the Tongue as an Indication of Disease'. *The British Medical Journal.* 1(1421): 625–635.

———— 1888b. *The Tongue as an Indication in Disease: Being the Lumleian Lectures Delivered at the Royal College of Physicians in March 1888*. London: Longmans Green.

Didier, Franklin James, 1821. 'A sketch of the prevalent medical doctrines and of the hospitals at Paris'. *A<Rec,* 4(2): 473–481.

Du Halde, Jean-Baptiste, 1735. *Description geographique, historique, chronologique, politique, et physique de l'empire de la Chine et d la Tartarie chinoise.* vols 1–4. Paris: P.G.Lemercier.

———— 1941 (3d edn) (trans. Richard Brookes). *The general history of China,* vols 1, 3, 4. London: John Watts.

Dujardin, Francois, 1774. *Histoire de la chirurgie, depuis son origine jusqu'a nos jours*, vol. 1. Paris: De l'imprimerie royale.

Du Qingbi 杜清壁 [1341] 1529 (ed.). *Aoshi shanghan jinjing lu* 敖氏傷寒金鏡錄 (Scholar Ao's Golden Mirror Record of Cold Damage). [Library archives of the Beijing Academy of Traditional Chinese Medicine].

Ferrar, James, 1787. *The History of Limerick.* Limerick: A. Watson & Co.

Finlayson, James, 1878. *Clinical Manual for the Study of Medical Cases*. Lopndon: Smith Elder & Co.

———— 1886. *Clinical Diagnosis: A Handbook for Students and Practitioners of Medicine*. Philadelphia: H.C. Lea.

Floyer, Sir John, 1707. *The Physician's Pulse-Watch; Or, an Essay to Explain the Old Art of Feeling the Pulse, and to Improve it by the help of a Pulse-Watch.* London: S. Smith and B. Walford.

Grosier, Jean-Baptiste, 1795. *A general description of China: containing the topography of the fifteen provinces which compose this vast empire; …Illustrated by a new and correct map of China, and other copper-plates. The second edition. …Translated from the French of the Abbe Grosier.* London: Printed for G.G. and J. Robinson.

Hall, Marshall, 1817. *On Diagnosis. In Four Parts.* London: Longman, Hurst, Rees, Orme and Brown.

Harvey, James, 1720. *Praesagium Medicum, or the prognostick signs of acute diseases.* London: George Strahan.

Henderson, Francis C., 1829. 'Dissertatio medica inauguralis de usumoxae… (An inaugural medical dissertation on the use of moxa…)'. Edinburgh: Walker.

Hernandez, J.F., 1808. *Memoire sur ces questions, proposes, le 14 Frimaire An XIV, Par La Societe De Medecine De Lyon: Quels sont les signes diagnostiques et prognostiques que peut fournir, dans les maladies aiguës et chroniques, l'etat de la langue, des levres et des dents? Quelles consequences doit–on en deduire dans la pratique?* A Toulon: Chez Alexandre Curet.

Hobson, Benjamin, 1860. 'The history and present state of medicine in China', *The Medical Times and Gazette*, 2: 400–402, 451–453, 477–478, 632–634.

Huangdi neijing suwen 黃地內經素問, 1963. Beijing 北京: *Renmin weisheng chubanshe* 人民衛生出版社.

Huangdi neijing 黃帝內經 [*c.*1st century BCE–1st century CE], Wang Bing 王冰 [710–804] (ed.), repr. 1994. Song woodblock print, Zhongyi guji reprint.

Huangting jing 黃庭經 (Scripture of the Yellow Court), [288 CE] 1949. In: *Daozong* 道藏, Hanfenlou Ben 涵芬樓本, Shanghai 上海, 122–131.

Jiang Guan 江瓘, [1552] 1994, *Mingyi Leian* 名醫類案. In*: Zhongguo Yixue Dacheng Sanbian* 中國醫學大成三編 *(*Book 11*),* Qiu Peiran 裘沛然 (ed.). Changsha 長沙: Yuelu Shushe 嶽麓書社.

Jiu Tang shu 舊唐書 (Old Tang Histories) [completed in 945 CE].

Kaempfer, Engelbert, 1694. 'Moxa, praestantissima Cauteriorum materia, Sinensibus Japonibusque multum usitata'. In: 'On Tropical Diseases, Oriental Medicine and Exotic Natural Phenomenon', (trans.

Bowers and Carubba), 1970, *Journal of the History of Medicine and Allied Sciences*, 25: 270–310.

———— *c*. 1712. *Amoenitatum exoticarum politico-physicomedicarum fasciculi V*. Lemgoviae: Henrici Wilhelmi Meyeri.

———— [1727], 1906 (trans. Scheuchzer, J.G.). *The History of Japan: ogether with a Description of the Kingdom of Siam, 1690-92.* Glasgow: J. Maclehose and Sons.

Larrey, Dominique Jean, 1822 (trans. Robley Dunglison). *On the use of the moxa: as a therapeutical agent*. London: Thomas and George Underwood.

Latham, R.D., 1848. *The Works of Thomas Sydenham, M.D. translated from the Latin edition of Dr. Greenhill, with a Life of the Author*, vols 1 and 2. London: The Sydenham Society

Le Comte, Louis, 1696. *Nouveaux memoires sur l'etat present de la Chine.* Paris: Chez Jean Anisson.

———— 1697 (trans.). *Memoirs and Observations made in a Late Journey through the Empire of China.* London: Benjamin Tooke and Samuel Buckley.

Legge, James, 1861. *The Chinese Classics: with A Translation, Critical and Exegetical Notes, Prolegomena, and Copious Indexes*, volume I. London: Trübner & Co.

Lettsom, John Coakley, 1784. *The Works of John Fothergill, M.D. Member of the Royal College of Physicians, and Fellow of the Royal Society, of London; And of the Royal College of Physicians in Edinburgh; And Corresponding Member of the Royal Medical Society of Paris, with some account of his life.* London: Charles Dilly.

Liang Yuyu 梁玉玉, [1897] 2002 reprint. *Shejian bianzheng* 舌鑑辯證 *(*Disease Identification According to Tongue Manifestations*).* Shanghai: Shanghai guji chubanshe 上海: 上海古籍出版社.

Li Gao 李杲, [1249] 1935. *Piwei lun* 脾胃論: 3 *juan*. Shanghai上海: Shangwu yinshuguan 商务印书馆. Reprint.

Linzheng zhinan yi'an 臨證指南議案 [1764] 1999. S*hi*, *shi miman sanjiao, juan* 5. In: *Ye Tianshi yixue quanshu* 葉天士醫學全書, Ye Gui 葉桂. Beijing 北京: Zhongguo Zhongyiyao Chubanshe 中國中醫藥出版社.

Liu Wansu 劉完素, [1172] 2000, *Huangdi Suwen Xuanming Lunfang* 黃帝素問宣明論方, Shanghai 上海: Shanghai Kexue Jishu Chubanshe 上海科學技術出版社.

———— 劉完素, 1987. *Shanghan zhige fang* 傷寒直格方 (Direct Investigation of Cold Damage). Shanghai 上海: Guji chubanshe 古籍出版社.

———— [1251] 1991. *Suwen bingji qiyi baoming ji* 素問病機氣宜保命集 (Collection of Writings on the Mechanism of Disease, Suitability of Qi, and the Safeguarding of Life as Discussed in Basic Questions). Shanghai 上海: Shangwu yinshuguan 商務印書館.

Medhurst, W.H., 1838. *China: Its State and Prospects*. London: John Snow.

———— 1872. *The Foreigner in Far Cathay.* London: Edward Stanford. And 1873. New York: Scribner, Armstrong and Company.

Mingyi lei'an, 名醫類案 (Classified Case Records by Famous Physicians). Jiang Guan 江瓘, [a.p. 1549, pr. 1591] repr. 2011. Beijing 北京: *Zhongguo yiyao keji chubanshe* 中国医药科技出版社.

Mitchell, Silas Weir, 1892. *The Early History of Instrumental Precision in Medicine: An Address before the*

Second Congress of American Physicians and Surgeons. New Haven CT: Tuttle, Morehouse & Taylor.

Morand, J., 1825. *Dissertation sur l'acupuncture, et se effets Therapeutiques.* Thèse de medicine de Paris, no. 25, Paris, IMpr, Didot.

———— [1825] 1928, (trans. Franklin Bache). *Memoir on acupuncturation, embracing a series of cases drawn up under the inspection of M. Julius Cloquet, Paris*. Philadelphia: Robert Desilver.

Morse, John T., 1896. *Life and Letters of Oliver Wendell Holmes,* vol. 1. Boston and New York: Houghton and Mifflin.

Musgrave, Anthony, 1826. 'Dry Belly-ache of the West Indies. Hepatic Ileus'. *The North American Medical and Surgical Journal,* January, 1: 439–440.

Nihell, James, 1741. *New and Extraordinary Observations concerning the prediction of Various Crises by the Pulse, Independent of the Critical Signs delivered by the Ancients; Made, First by Dr Don Francisco Solano De Luque.* London: James Crokatt.

Ormerod, E.L., 1846. 'St. Bartholomew's Hospital: Medical Reports from this Hospital'. *The Lancet,* 48(1217), 26 December: 681–683.

———— 1847, 'Fever, Profuse Haemorrhage from the Bowels, Recovery', *The Lancet*, 49(1232), 10 April: 373–375.

Osler, William, 1921. *The Evolution of Modern Medicine.* New Haven: Yale University Press.

Otis, Edward O., 1898. *Auenbrugger and Laennec, the Discoverers of Percussion and Auscultation.* Boston: Damrell & Upham.

Quain,R., 1865. *Observations on Medical Education. Being the Introductory Lecture in the Faculty of University College, London, for the Session 1864–1865*. London: University College Press, 14–15.

Qian Yi 錢乙, [1119] 1983, *Xiaoer Yaozheng Zhijue* 小兒藥證直訣, Nanjing 南京: Jiangsu Kexue Jishu Chubanshe 江蘇科學技術出版社.

Renaudot, Eusebius, 1733. *Ancient Accounts of India and China, By Two Mohammedan Travellers who went to those parts in the 9th century; Translated from the Arabic by the late Learned Eusebius Renaudot. With Notes, Illustrations and Inquiries by the same Hand.* London: Sam. Harding.

Renton, John 1830. 'Observations on acupuncture'. *Edinburgh Medical and Surgical Journal,* July, xxxiv, no. 104: 100–107.

Ricci, Matteo, [1615] 1942 (trans. Louis J. Gallagher, S.J.). *China in the sixteenth century: The journals of Matthew Ricci: 1583–1610.* New York: Random House.

Richter, August Gottlieb, 1794 (trans. Thomas Spens). *Medical and Surgical Observations.* Edinburgh: T. Duncan, and London: G.G. & J. Robinsons.

Ridge, Benjamin, 1844. *Glossology: or the Additional Means of Diagnosis of Disease to be Derived from Indications and Appearnaces of the Tongue.* London: John Churchill.

———— 1849. 'On the Papillae of the Tongue'. *The Lancet*, 53: 427.

Rises, Guenter B. 1997. 'Medical Care'. In: *Comanion Encyclopaedia of the History of Medicine*, volse 1 and 2, Bynum, W.F. and Roy Porter, (eds). London and New York: Routledge.

Rush, Benjamin, M.D., 1815. *The Works of Thomas Sydenham, M.D., on Acute and Chronic Diseases; with*

their Histories and Modes of Cure. With Notes, Intended to Accommodate them to the Present State of Medicine, and to the Climate and Diseases of the United States. Philadelphia: E. Kimber, B. & T. Kite, Johnson & Warner, E. Parker, J. Richardson, and I. Pierce.

Shaw, Peter, 1726. *A New Practice of Physic: Wherin the various Diseases incident to the human Body are orderly described, Their causes assign'd, Their Diagnostics and Prognostics enumerated…* . London: Osborn and Lonman.

Smellie, W., M.D., 1752 (2nd edn). *A Treatise on the Theory and Practice of Midwifery.* London: D. Wilson and T. Durham.

Sun Simiao 孫思邈, 2008 (trans. Sabine Wilms). *Bei Ji Qian Jin Yao Fang: Essential Prescriptions worth a Thousand in Gold for Every Emergency*. The Chinese Medicine Database, vols. 2–4 (http://cm-db.com).

Sun Wenyin 孫文胤, [1636] 1984. *Dantai Yuan* 丹臺玉案 (Book 2). Shanghai 上海: Shanghai Kexue Jishu Chubanshe 上海科學技術出版社.

Sun Wenyuan 孫文垣, (*c.*1619) 2012. *Sun Wenyuan yi'an* 孫文垣醫案. Beijing 北京: Zhongguo yiyao keji chubanshe 中國醫藥科技出版社.

Sun Yikui 孫一奎, (Ming), 1999. 'Sun shi yi'an 孫氏醫案' . In: *Sun Yikui yixue quanshu* 孫一奎醫學全書, Han Xuejie 韓學杰 and Zhang Yinsheng 張印生, (eds). Beijing 北京: Zhongguo Zhongyiyao chubanshe 中國中醫藥出版社.

Swan, John, M.D., 1742. *The Entire Works of Dr. Thomas Sydenham. Newly made English from the Originals. Wherin the History of acute and chronic Diseases and the Safest and most effectual Methods of treating them, are faithfully, clearly, and accurately delivered. To which are added, Explanatory and Practical Notes, From the best medicinal Writers.* London: Edward Cave.

Taiping Huiming Hejiju 太平惠民和劑局 (ed.), [1078] 1985. 太平惠民和劑局方. Beijing 北京: Renmin Weisheng Chubanshe 人民衛生出版社.

Temple, William, 1680. *Miscellanea*. London: Golden-Ball in St. Pauls Churchyard.

Ten Rhyne, Willem, 1683. *Dissertatio de Arthritide: Mantissa Schematica: de Acupunctura et Orationes Tres…* . London: Impensis R. Chiswell.

Turner, Daniel, 1727. *A Discourse Concerning Fevers …With Some Shoryt but General Remarks upon the Pulses and Urine.* London: Clarke.

Twysden, John, 1666. *Medicina Veterum Vindicata ,Or, An Answer to a Book, Entitled Medela Medicinae: In which the Ancient Method and Rules are Defended.* London: John Crook.

Vierdordt, Oswald, 1898 (trans. Stuart, F.H.). *A Clinical Text-Book of Medical Diagnosis for Physicians and Students, Based on the Most Recent Methods of Examination*. Philadelphia: W.B. Saunders.

Wallace, William, 1827. *Physiological Enquiry Respecting the Action of Moxa, and its Utility in Inveterate Cases of Sciatica, Lumbago, Paraplegia, Epilepsy, and some other Painful, Paralytic, and Spasmodic Diseases of the Nerves and Muscles*. London: Longman, Reese, Orme, Brown, & Green.

Wang JI 汪機 [1531] Chen Jue 陳椗 (ed.), 1987. Shishan yi'an 石山醫案 (Stone Mountain Case Records). Shanghai 上海: Shanghai guji chubanshe 上海古籍出版社.

Wang Kentang 王肯堂, (1641) 1919. Yixue Jinliang 醫學津梁 (vol. 2), Yue Changyuan 岳昌源 and Chen Zhu 陳洙 (ed.). Shanghai 上海: Qianqingtang Shuju 千頃堂書局.

———— 王肯堂 [1602–1608] 1997. *Zheng zhi zhun sheng* 證治準繩, Wu Wei 吳唯 *et al.* (eds), Beijing 北京: *Zhong guo zhong yi yao chu ban she* 中國中醫藥出版社.

Wang Kentang 王肯堂, (1749) 2012. *Nüke zhengzhi zhunsheng* 女科證治準繩 (Standards of Diagnosis and Treatment of Women's Diseases). Taiyuan 太原: Shanxi Kexue jishu chubanshe 山西科學技術出版社.

Wang Tao 王燾, (*c.*752) 2009. *Wai tai mi yao* 外臺秘要 (Arcane Essentials from the Imperial Library). Beijing 北京: Beijing airu shengshu zihua jishu yanjiu zhongxin 北京愛如生數字化技術研究中心. https://www.wdl.org./en/item/13525/view.

Waring, Willliam, M.D., 1826. 'Description of a febrile disease which lately prevailed epidemically among the Negroes of the Rice plantations, in the vicinity of the city of Savannah'. *The North American Medical and Surgical Journal,* I(1): 1–23.

Williams, Edward, 1846a. *An Essay on the Tongue, in Functional Derangement of the Stomach and Bowels and on The Appropriate Treatment; also, The Tongue's Aspect in Organic Disease of the Lungs and Heart, Etc. Etc.* London: Simpkin, Marshall, & Co.

———— 1846b. Review of 2nd edn of 'An Essay on the Tongue in Functional Derangement of the Stomach and Bowels, and on the Appropriate Treatment, &c., &c.'.*Provincial Medical and Surgical Journal*, 10(49), 9 December.

Wirtzung, Christopher, 1598 (trans. Iacob Mosan). *Praxis Medicinae Universalis: Or, A Generall Practise of Physicke: Wherein Are Conteined All Inward And Outward Parts of the Body, With All the Accidents And Infirmities That Are Incident Unto Them, Even From the Crowne of the Head to the Sole of the Foote, Also by What Meanes (with the Help of God) They May Be Remedied…* . London: Edmund Bollisant.

Wood, George B., 1855. *A Treatise on the Practice of Medicine. In Two Volumes.* Philadelphia: Lippincott, Grambo, and Co.

———— 1826. 'On the use of the Oil of Turpentine, in a particular condition of fevers'. *The North American Medical and Surgical Journal,* 1: 272–275.

Wooton, William, 1694. *Reflections upon Ancient and Modern Learning.* London: J. Leake.

Wu Tang 吳瑭, [*c.* 1833] 1985, *Wu ju tong yi an* 吳鞠通醫案 (Case Records of Wu Jutong), Beijing 北京: Renmin weisheng chubanshe 人民衛生出版社.

———— 1990. *Zengbu Pingzhu Wenbing Tiaobian* 增補評註溫病條辨, Wang Shixiong 王士雄 and Ye Ziyu 葉子雨 (eds). Shanghai 上海: Shanghai Kexue Jishu Chubanshe 上海科學技術出版社.

———— [1798] 2002. *Wenxintang Wenbing tiaobian* 問心堂溫病條辨. In: *Xuxiu Siku Quanshu* 續修四庫全書 (Book 1004). Shanghai 上海: *Shanghai Guji Chubanshe* 上海古籍出版社.

Wu Youxing 吳有性, [1642] 2007. Wenyi lun 溫疫論 (Treatise on Febrile Epidemics), Beijing 北京: Renmin weisheng chubanshe 人民衛生出版社.

Xu Shuwei 許叔微 (1132) 1986. *Shanghan jiushi lun* 傷寒九十論 (Ninety Discourses on Cold Damage). In: *Congshu jicheng xin bian* 叢書集成新編 (vol. 45), (ed.). Taipei 臺北: [Xinwenfeng chuban] gongsi bianjibu 「新文豐出版」公司編輯部.

Xue Ji 薛己, [1529] 1991. Xueshi yi'an 薛氏醫案 (Scholar Xue's Case Records). Shanghai 上海: Shang hai gu ji chu ban she 上海古籍出版社.

———— [1573?] 1986, *Xueshi Yi'an* 薛氏醫案. In: *Wenyuange Siku Quanshu* 文淵閣四庫全書 (Book

763), Ji Yun 紀昀 *et al.* (eds). Taipei 臺北: Taiwan Shangwu Yinshuguan 臺灣商務印書館.

Ye Tianshi 葉天士, [*c.*1746] 2010. *Weikeben Yeshi Yi'an* 未刻本葉氏醫案, Cheng Menxue 程門雪 (ed.). Shanghai 上海: Shanghai kexue jishu chubanshe 上海科學技術出版社.

[1764] 1958. Linzheng zhinan yi'an 臨證制南醫案. Shanghai 上海: Shanghai weisheng chubanshe 上海衛生出版社 •

Zhang Deng 张登, [1668] 1983. *Shanghan shejian* 傷寒舍監 (Tongue Reflections in Cold Damage). Taibei: Taiwan shangwu.

Zhang Ji 張機, [*c.*200] 1991. *Shanghan Lun Jiaozhu* 傷寒論校注, Liu Duzhou 劉渡舟 (ed.). Beijing 北京: Renmin Weisheng Chubanshe 人民衛生出版社.

Zhang Zhongjing 張仲景, [*c.*200] 1991. *Shanghan lun jiaozhu* 傷寒論校注, Liu Duzhou 劉渡舟 (ed.). Beijing 北京: Renmin weisheng chubanshe 人民衛生出版社.

———— [3rd century] 1957. *Jingui Yaolue Fanglun Jizhu* 金匱要略方論集註, Huang Zhuzhai 黃竹齋 (ed.). Beijing 北京: Renmin Weisheng Chubanshe 人民衛生出版社.

Secondary Sources

Abu-Asab, Mones, Hakima Amri and Marc S. Micozzi, 2013. *Avicanna's Medicine: A New Translation of the 11th-Century Canon with Practical Applications for Integrative Health Care.* Rochester, VT and Toronto: Healing Arts Press.

Ackernecht, Erwin H, 1967. *Medicine at the Paris Hospital 1794–1848.* Baltimore: Johns Hopkins University Press.

———— 1967. 'Primitive Surgery'. Chapter 51, in Brothwell and Sandison, 1967, 635–660.

———— 1982. *A Short History of Medicine.* Baltimore and London: Johns Hopkins University Press.

Adams, Francis, (trans.), in Daniel C. Stevenson, 1994–2009, 'Works by Hippocrates', *The Internet Classics Archive*. Web Atomics.

Adshead, S.A.M., 2000. *China in World History*, 3rd edition. New York: St. Martin's Press, and Basingstoke, Macmillan Press.

Allan, Sarah, 1981. *The Heir and the Sage: Dynastic Legend in Early China.* San Francisco: Chinese Materials Center.

———— 1991. *The Shape of the Turtle: Myth, Art, and Cosmos in Early China.* Albany: SUNY Press.

———— 1997. *The Way of Water and Sprouts of Virtue.* Albany: SUNY Press.

———— (ed.), 2005. *The Formation of Chinese Civilization: An Archaeological Perspective.* New Haven: Yale University and New World Press.

———— 2007. 'On the Identity of Shang Di 上帝 and the Origin of the Concept of a Celestial Mandate (*Tian Ming* 天命)'. *Early China* 31: 1–46.

Allsen, Thomas, 1997. *Commodity and Exchange in the Mongol Empire.* Cambridge: Cambridge University Press.

———— 2004. *Culture and Conquest in Mongol Eurasia.* Cambridge: Cambridge University Press.

———— 2009. 'Mongols as Vectors for Cultural Transmission'. *Cambridge History of Inner Asia: The Chinggsid Age.* Di Cosmo, Nicola, Frank, Allen J., and Golden, Peter B. (eds). Cambridge: Cambridge University Press, 135–154.

Alter, Joseph, 2008. 'Rethinking the History of medicine in Asia: Hakim Mohammed Said and the Society for the Promotion of Eastern Medicine'. *Journal of Asian Studies* 67: 1165–1186.

Angeles, Luis, 2014. 'The Economics of Printing in Early Modern China and Europe', Paper delivered at 4th Asian Historical Economics Conference, Istanbul.

Angle, Stephen C., and Justin Tiwald. 2017. *Neo-Confucianism, A Philosophical Introduction*. Cambridge UK, Malden, MA: Polity Press.

Armstrong, J.A., 2007. 'Urinalysis in Western Culture: A Brief History'. *Kidney International*, 71(5): 384–387.

Asen, Daniel, 2009. 'Manchu Anatomy': Anatomical Knowledge and the Jesuits in Seventeenth- and Eighteenth-Century China. *Social History of Medicine,* 22(1): 23–44.

Azoulay, Ariella, 2008. *The Civil Contract of Photography*. New York: Zone Books.

Baker, Donald, 2003. 'Oriental Medicine in Korea'. In: *Medicine Across Cultures: History and Practice of Medicine in Non-Western Cultures,* Helaine Sellin (ed.). Dordrecht: Kluwer Academic Publishers.

Barnes, Linda L., 2005. *Needles, Herbs, Gods, and Ghosts: China, Healing, and the West to 1848.* Cambridge, MA: Harvard University Press.

Bates, Don G., 1992. 'Harvey's Account of His Discovery'. *Medical History* 36: 361–378.

———— (ed.), 1995. *Knowledge and the Scholarly Medical Traditions,* Cambridge: Cambridge University Press.

Bedford, D. Evan, 1971. 'Auenbrugger's contribution to cardiology, History of percussion of the heart'. *British Heart Journal* 33: 817–821.

Beinfield, Harriet, and Efrem Komgold, 1991. *Between Heaven and Earth: A Guide to Chinese Medicine.* New York: Ballantine Books.

Benedict, Carol. 1996. *Bubonic Plague in Nineteenth-Century China.* Stanford, CA: Stanford University Press.

Benn, Charles, 2002. *China's Golden Age, Everyday Life in the Tang Dynasty.* Westport CT: Greenwood Press.

Bennett, Adrian Arthur, 1967. *John Fryer: The Introduction of Western Science and Technology into Nineteenth-Century China.* Cambridge, MA: Harvard University Press.

Bensky, Dan, Steve Clavey, Erich Stöger, 2005; 2009 2nd and 3rd edn. *Chinese Herbal Medicine: Materia Medica*. Seattle, WA: Eastland Press.

Berger, Peter L., 2002. 'The Cultural Dynamics of Globalisation'. In: *Many Globalisations: Cultural Diversity in the Contemporary World,* Peter L. Berger and Samuel P. Huntington, (eds). Oxford: Oxford University Press, 1–16.

Berthrong, John H., 1998. *Transformations of the Confucian Way*. Boulder, CO: Westview Press.

Bivins, Roberta, 2000. *Acupuncture, Expertise, and Cross-Cultural Medicine.* London: Palgrave.

Blalack, Jason, n.d. *Understanding Ye Tianshi's Case Histories.* (http://www.chinesemedicinedoc.com/understanding-ye-tian-shis-cases/, accessed 10 March, 2017).

Boileau, Gilles, 2002. 'Wu and Shaman'. *Bulletin of the School of Oriental and African Studies* 65(2): 350–378.

Bol, Peter K., 1992. *This Culture of Ours – Intellectual Transitions in T'and and Sung China.* Stanford, CA: Stanford University Press.

———— 2003. 'Neo-Confucianism and Local Society, Twelfth to Sixteenth Century: A Case Study'. In: *The Song-Yuan-Ming Transition in Chinese History,* Paul Jakov Smith and Richard von Glahn (eds). Cambridge, MA: Harvard University Asia Center, 241–283.

———— 2008. *Neo-Confucianism in History*. Cambridge, MA and London: Harvard University Press.

Boltz, Judith M., 1993. 'Not by the Seal of Office Alone: New Weapons in Battles with the Supernatural'. In: *Religion and Society in T'ang and Sung China,* P.B. Ebery and P.N. Gregory, (eds). Honolulu: University of Hawaii Press, 241–305.

Bonner, Thomas Neville, 2000. *Becoming a Physician. Medical Education in Britain, France, Germany,*

and the United States, 1750–1945. Baltimore and London: Johns Hopkins University Press.

Boyanton, Stephen, 2015. 'The Treatise on Cold Damage and the Formation of Literati Medicine: Social, Epidemiological, and Medical Change in China, 1000-1400'. PhD Thesis, New York: Columbia University.

Boxer, Charles, (ed.), 1953. *South China in the Sixteenth Century: Martin de Rada (1550–1575).* London: Hakluyt Society.

———— 1963. *Two pioneers of tropical medicine: Garcia d'Orta and Nicolas Monardes.* London: Wellcome Medical Historical Library.

Bray, Francesca, 1997. *Technology and Gender: Fabrics of Power in Late Imperial China.* Berkeley: University of California Press.

Bray, Francesca, Vera Dorofeeva-Lictmann, and Georges Métailié, (eds), 2007. *Graphics and Text in the Production of Technical Knowledge in China: The Warp and the Weft.* Leiden, Boston, MA: Brill.

Brian, Nancy, 2002. 'Medical Casebooks in Early Modern Europe: A Survey of Recent Research and Strategies for Teaching'. In: *The Proceedings of the 37th International Congress for the History of Medicin*e, Chester R. Burns, Ynez Violé O'Neill, Philippe Albou and José Gabriel Rigaú-Pérez (eds). Galveston, TX, 214–217.

Bridges, Lillian, 2003. *Face Reading in Chinese Medicine.* Oxford: Churchill Livingstone.

Brindley, Erica, 2005. 'After Confucius: Studies in Early Chinese Philosophy'. *Journal of Chinese Philosophy,* 32(4): 649–653.

———— 2012. *Music, Cosmology, and the Politics of Harmony in Early China*. Albany: SUNY Press.

Bristow, William, 2011. 'Enlightenment'. *The Stanford Encyclopedia of Philosophy* (Summer 2011 edn), Edward N. Zalta (ed.). URL = <https://plato.stanford.edu/archives/sum2011/entries/enlightenment/>. (accessed 2 July, 2017).

Brockey, Liam Matthew, 2007. *Journey to the East: the Jesuit Mission to China, 1579–1724*. Cambridge, MA: Harvard University Press.

Brockliss, L.W.B., 1978. 'Medical teaching at the University of Paris,1600–1720', *Annals of Science,* 35(3): 221–251.

Brockliss, L.W.B. and Colin Jones, 1997. *The Medical World of Early Modern France*. Oxford: Oxford University Press.

Brokaw, Cynthia J., 1991. *The Ledgers of Merit and Demerit: Social Change and Moral Order in Late Imperial China.* Princeton, NJ: Princeton University Press.

———— 2007a. *Commerce in Culture: The Sibao Book Trade in the Qing and Republican Periods*. Cambridge, MA: Harvard University Press.

———— 2007b. 'Book history in premodern China: The state of the discipline I.' *Book History,* 10.1: 253–290.

Brokaw, Cynthia J. and Chow, Kai Wing, (eds), 2005. *Printing and Book Culture in Late Imperial China.* London: University of California Press, Ltd.

Brook, Timothy, 1998. *The Confusions of Pleasure: Commerce and Culture in Ming China*. Berkeley, CA:

University of California Press.

Brooks, E. Bruce and A. Taeko Brooks, 2001. *The Original Analects, Sayings of Confucius and His Successors.* New York: Columbia University Press.

Brooks, E. Bruce, Alvin P. Cohen and Donald E. Gjertson (eds), 2010. *The Warring States Papers*, vol. 1. Studies in Chinese and Comparative Philology. Amherst, MA: Warring States Project, University of Massachusetts Press.

Brothwell, D., and Sandison, A.D., 1976. *Diseases in Antiquity*. Springfield IL: C.C. Thomas.

Brown, Miranda, 2015. *The Art of Medicine in Early China, The Ancient and Medieval Origins of a Modern Archive.* New York: Cambridge University Press.

———— 2015. 'Looking Backward, The Rise of Medical Tradition in the Han Period'. In: *Chang'an 26 BCE: An Augustan Age in China,* Nylan and VanKeerberghen (eds). Seattle and London: University of Washington Press.

Bruijn, Iris, 2009. *Ship's Surgeons of the Dutch East India Company.* Leiden: Leiden University Press.

Bynum, W.E., 1994. *Science and the Practice of Medicine in the Nineteenth Century.* Cambridge: Cambridge University Press.

———— 2008. *The History of Medicine: A Very Short Introduction*. Oxford: Oxford University Press.

Bynum, W.F. and Roy Porter, (eds), 1993. *Medicine and the Five Senses.* Cambridge: Cambridge University Press.

———— (eds), 1997. *Companion Encyclopedia of the History of Medicine*. Abingdon: Routledge.

Callebaut, Werner, moderator, 1993. *Taking the Naturalistic Turn, or How Real Philosophy of Science is Done*. Chicago and London: University of Chicago Press.

Camus, Yves, 2007. *Jesuit Journeys in Chinese Studies.* World Conference on Sinology, 2007: 03 (26–28), Renmin University of China. Beijing.

Caputo, Ben C. and James A. Marcum, 2015. 'The Demise of Vitalism: Fernel's and Servetus' Vital Spirit and Harvey's Living Blood'. *International Journal of History and Philosophy of Medicine* 5: 10503.

Carter, Thomas Francis, 1955. *The Invention of Printing in China and Its Spread Westward*. New York: The Ronald Press Company.

Cass, Victoria B., 1986. 'Female Healers in the Ming and the Lodge of Ritual and Ceremony'. *Journal of the American Oriental Society* 106(1): 233–245.

———— 1999. *Dangerous Women: Warriors, Grannies and Geishas of the Ming.* Rowan and Littlefield Publishers, Inc.

Chadwick, J. and W.N. Mann (trans.), G.E.R. Lloyd (ed.), 1984. *Hippocratic Writings*. E. Rutherford, NJ: Penguin Classics.

Chaffee, John W., 1995. *The Thorny Gates of Learning in Sung China: A Social History of Examinations.* Albany, NY: State University of New York Press.

Chaffee, John W. and Denis Twitchett, (eds), 2015. T*he Cambridge History of China*, vol. 5, pt 2, *Sung China, 960–1279*. Cambridge: Cambridge University Press.

Chang Che-chia, 1998. 'The Therapeutic Tug of War: The Imperial Physician-Patient Relationship in the

Era of Empress Dowager Cixi (1874–1908)'. Ph.D. dissertation, University of Pennsylvania.

Chang Kang-I Sun and Stephen Owen, (eds), 2010. *The Cambridge History of Chinese Literature*. Cambridge: Cambridge University Press.

Chang Kwang-chih, 1983. *Art, Myth, and Ritual: The Path to Political Authority in Ancient China.* Cambridge, MA: Harvard University Press.

Chao Yüan-ling, 2000. 'The Ideal Physician in Late Imperial China: The Question of Sanshi'. *East Asian Science, Technology, and Medicine,* 17: 66–93.

———— 2009. *Medicine and Society in Late Imperial China: A Study of Physicians in Suzhou, 1600–1850.* Asian Thought and Culture, vol.61. New York: Peter Lang.

Chaudhuri, K.N., 1990. *Asia before Europe, Economy and civilisation of the Indian Ocean from the rise of Islam to 1750*. Cambridge: Cambridge University Press.

Chen Ming, 2007. 'The Transmission of Foreign Medicine via the Silk Roads in Medieval China: A Case Study of *Haiyao Bencao*'. *Asian Medicine*, 3(2): 241–264.

Cheng Wen-chien, 2003. 'Images of Happy Farmers in Song China (960–1279): Drunks, Politics, and Social Identity'. Ph.D. dissertation, University of Michigan.

Cherniack, Susan, 1994. Book Culture and Textual Transmission in Sung China. *Harvard Journal of Asiatic Studies,* 54(1): 5–125.

Chia, Lucille, 2002. *Printing for Profit: The Commercial Publishers of Jianyang, Fujian (11th–17th centuries).* Cambridge, MA: Harvard University Asia Center for Harvard-Yenching Institute.

Christopoulos, Lucas, 2012. 'Hellenes and Romans in Ancient China (240 BC–1398 AD)'. In: *Sino-Platonic Papers*, no. 230, Victor Mair, (ed.). Chinese Academy of Social Sciences, University of Pennsylvania Department of East Asian Languages and Civilizations.

Clark, Hugh R., 1991. *Community, Trade, and Networks: Southern Fujian Province from the Third to the Thirteenth Century.* Cambridge: Cambridge University Press.

Churchill, Wendy, 2016a. *Female Patients in Early Modern Britain: Gender, Diagnosis and Treatment*. Abingdon: Routledge.

———— 2016b. 'Investigating the Records of British Medical Practice circa 1590–1740'. In: *Female Patients in Early Modern Britain: Gender Diagnosis and Treatment.* London and New York: Routledge, 1–38.

Clendening, Logan, (1942) 1960. *Source Book of Medical History.* Mineola, N.Y.: Dover Publications.

Conrad, Lawrence I., Michael Neve, Vivian Nutton, Roy Porter, Andrew Wear, 2003. *The Western Medical Tradition: 800 BC to AD 1800, Volume 1.* Cambridge: Cambridge University Press.

Cook, Harold, 2007. *Matters of Exchange: Commerce, Medicine and Science in the Dutch Golden Age.* New Haven and London: Yale University Press.

———— 2011. 'Conveying Chinese Medicine to Seventeenth Century Europe'. In: *Science Between Europe and Asia: Historical Studies on the Transmission, Adoption and Adaptation of Knowledge.* Günergun, Feza and Raina, Dhruv, (eds). Heidelberg, London, New York: Springer Science +Business Media B.V, 533–599.

———— Cook, H., (2011). 'Markets And Cultures: Medical Specifics and the Reconfiguration of the Body Iin Early Modern Europe'. *Transactions of the Royal Historical Society*, 21, 123–145.

———— 2014. 'Creative Misunderstandings: Chinese Medicine in Seventeenth Century Europe'. In: *Cultures in Motion,* Daniel Rogers, Bhavani Raman and Helmut Reimitz, (eds). Princeton and Oxford: Princeton University Press.

Cooter, Roger, 2013. 'Medicine and Modernity'. In: *The Oxford Handbook of the History of Medicine,* Jackson, M. (ed.). Oxford: Oxford University Press, 100–116.

Crosland, M., 2004. 'The Officiers de Santé of the French Revolution: A Case Study in the Changing Language of Medicine'. *Medical History*, 48(2): 229–244.

Csordas, Thomas J., 2007. 'Introduction: Modalities of Transnational Transcendence'. *Anthropological Theory,* 7: 259–272.

Cullen, Christopher, 1993. 'Patients and Healers in Late Imperial China: Evidence from the Jinpingmei.' *History of Science,* 31: 99–150.

———— 2001. '*Yi'an* 醫案 (case statements): the origins of a genre of Chinese medical literature'. In: *Innovation in Chinese Medicine,* Hsu (ed.), 297–323.

Dardess, John, 1983. *Confucianism and Autocracy: Professional Elites in the Founding of the Ming Dynasty.* Berkeley: University of California Press.

Davids, Karel, 2011. 'Dutch and Spanish Global Networks of Knowledge in the Early Modern Period: Structures, Connections, Changes'. In: *Centres and Cycles of Accumulation in and Around the Netherlands during the Early Modern Period,* Roberts, (ed.). Zurich: LIT Verlag Münster, 29–52.

De Barry, Wm. Theodore, 1989. 'Chu Hsi's Aims as an Educator'. In: *Neo-Confucian Education: The Formative Stage,* Wm. T. De Barry and J.W. Chaffee, (eds). University of California Press, 186–218.

De Bary, Wm. Theodore, and Irene Bloom, (eds), 1999. *Sources of Chinese Tradition*, vol. 1. New York: Columbia University Press.

Demel, Walter, 1991. 'China in the Political Thought of Western and Central Europe, 1570–1750'. In: *China and Europe: Images and Influences in Sixteenth to Eighteenth Centuries,* Lee, Thomas H.C. Hong Kong: The Chinese University Press.

Deng Tietao 鄧鐵濤, 1999. *Zhongyi jindai shi* 中醫近代史. Guangzhou 廣州: Guangdong gaodeng jiaoyu chubanshe 廣東高等教育出版社.

Derrida, Jacques, 1988. *Limited Inc.* Evanston IL: Northwestern University Press.

Deshpande, Vijaya, 2007. 'The Body Revealed: The Contribution of Forensic Medicine to Knowledge and Representations of the Skeleton in China'. In: *Graphics and Text in the Production of Technical Knowledge in China: The Warp and the Weft*, F. Bray, V. Dorofeeva-Lichtmann and G. Métailié, (eds). Leiden and Boston: Brill, 635–684.

Despeux, Catherine, 1987. *Prescriptions d'acupuncture valant mille onces d'or.* Paris: Guy Tredaniel.

———— 2001. 'The System of the Five Circulatory Phases and the Six Seasonal Influences (Wuyun Liuqi), a Source of Innovation in Medicine under the Song (960–1279)'. In: *Innovation in Chinese Medicine,* E. Hsu, (ed.). Needham Research Institute Studies, vol. 3. Cambridge: Cambridge

University Press, 121–165.

———— 2005. 'From prognosis to diagnosis of illness in Tang China, Comparison of the Dunhuang manuscript P. 3390 and medical sources'. In: Lo and Cullen, (eds), 176–205.

———— 2007. 'The Body Revealed'. In: *Graphics and Text in the Production of Technical Knowledge in China: The Warp and the Weft*, Bray *et al*., (eds). Leiden: Brill.

De Vries, Jan and Van der Would, Ad., 1997. *The First Modern Economy: Success, failure, and perseverance of the Dutch economy, 1500–1815.* Cambridge: Cambridge University Press.

Dewhurst, Kenneth, 1970. *Oxford medicine: essays on the evolution of Oxford Clinical School to commemorate the bicentary of the Radcliffe Infirmary, 1770–1970*. Oxford: Sandform Publications.

DeWoskin, Kenneth J., 1983. *Doctors, Diviners, and Magicians of Ancient China: Biographies of Fang-shih,* New York: Columbia University Press.

Di Cosmo, Nicola, Allen J. Frank, Peter B. Golden, (eds), 2009. *The Cambridge History of Inner Asia, The Chinggisid Age*. Cambridge: Cambridge University Press.

Duffin, Jacalyn, 1998. *To See with a Better Eye: A Life of R.T.H.Laennec.* Princeton: Princeton University Press.

Dunstan, Helen, 1975. The Late Ming Epidemics: A Preliminary Survey. *Ch'ing-shih wen-t'i,* 3(3): 1–59.

Ebrey, Patricia Buckley, 1988. The Dynamics of Elite Domination in Sung China. *Harvard Journal of Asiatic Studies,* 48(2): 493–520.

———— 2010. *The Cambridge Illustrated History of China,* 2nd edn. Cambridge: Cambridge University Press.

Ebrey, Patricia Buckley, and Maggie Bickford (eds), 2006. *Emperor Huizong and Late Northern Song China: The Politics of Culture and the Culture of Politics.* Cambridge, MA: Harvard University Press.

Eliot, Thomas Stearns. 1998. *The Sacred Wood and Major Early Essays.* Mineola NY: Dover Publications Inc.

Elisseeff, Vadime, (ed.), 2000. *The Silk Roads, Highways of Culture and Commerce*. New York, Oxford: Berghahn Books.

Elman, Benjamin A., 1984. *From Philology to Philosophy: Intellectual and Social Aspects of Change in Late Imperial China.* Cambridge, MA: Harvard University Press.

———— 2000. *A Cultural History of Civil Examinations in Late Imperial China.* Berkeley: University of California Press.

———— 2005. *On Their Own Terms: Science in China, 1550–1900.* Berkeley: University of California Press.

———— 2007. 'Collecting and Classifying: Ming Dynasty Compendia and Encyclopedias (*Leishu)'*. In: 'Qu'etait-ce Qu'ecrire une Encyclopedie en Chine? / What Did It Mean To Write an Encyclopedia in China?' *Extrême-Orient, Extrême-Occident*, 1(1): 131–157.

Elmer, Peter, and Ole Peter Grell, (eds), 2004. *Health, Disease and Society in Europe 1500–1800, A Source Book*. Manchester: Manchester University Press.

Elverskog, Johan, 2010. *Buddhism and Islam on the Silk Road.* Philadelphia: University of Pennsylvania

Press.

Elvin, Mark, 1973. *The Pattern of the Chinese Past: A Social and Economic Interpretation*. Stanford: Stanford University Press.

Eno, Robert, 2015. *The 'Analects' of Confucius: An Online Teaching Translation. Version 2.2.* http://www.indiana.edu/~p374/Analects_of_Confucius_(Eno–2015). pdf (January 1 2016).

van Ess, Hans, 2003–2004. 'Education classique, education legiste sous les Han'. In: *Education et instruction en Chine,* Christine Nguyen Tri and Catherine Despeux. Paris and Louvain: Peeters, vol. 3, 23–41.

Fan Ka-Wai 范家偉, 2004a. 'On Hua Tuo's Position in the History of Chinese Medicine'. *American Journal of Chinese Medicine* 32: 313–320.

———— 2004b. Jiao Qi Disease in Medieval China. *American Journal of Chinese Medicine* 32: 999–1011.

Farquhar, Judith, 1994. 'Multiplicity, Point of View, and Responsibility in Traditional Chinese Healing'. In: *Body, Subject and Power in China*, A. Zito and T.E. Barlow, (eds). Chicago, IL: University of Chicago Press, 78–99.

———— 1994a. *Knowing Practice: The Clinical Encounter in Chinese Medicine*. Boulder: Westview Press.

Faulkner, William. [1951] 2011. *Requiem for a Nun*. New York: Vintage Books.

Finnegan, Diarmid A., 2008. 'The Spatial Turn: Geographical Approaches in the History of Science'. *Journal of the History of Biology* 41(2): 369–388.

Fleckenstein, Kristie S., Linda T. Calendrillo and Demetrice A. Worley, (eds), 2002. *Language and Image in the Reading-Writing Classroom: Teaching Vision*. Mahwah NJ and London: Lawrence Erlbaum.

Foss, Theodore N., 1990. 'The European Sojourn of Philippe Couplet and Michael Shen Fuzong, 1683–1692'. In: *Philippe Couplet, S.J. (1623–1693): The Man Who Brought China to Europe*. J. Heyndrickx, (ed.), 121–140.

Foucault, Michel, 1976 (trans. A.M. Sheridan). *The Birth of the Clinic.* London: Tavistock Publications Limited.

French, Roger and Wear, Andrew, (eds), 1991. *British Medicine In An Age Of Reform.* Abingdon: Routledge.

Furth, Charlotte, 1999. *A Flourishing Yin: Gender in China's Medical History, 960–1665.* Berkeley: University of California Press, Berkeley.

———— 2006. 'The Physician as Philosopher of the Way: Zhu Zhenheng (1282–1358)'. *Harvard Journal of Asiatic Studies* 66(2): 423–459.

———— 2007. 'Producing Medical Knowledge through Cases: History, Evidence, and Action'. In: *Thinking with Cases: Specialist Knowledge in Chinese Cultural History,* C. Furth, J.T. Zeitlin, and P.C. Hsiung, (eds). Honolulu: University of Hawaii Press, 125–151.

———— 2011. Review of 'Medicine and Society in Late Imperial China: A Study of Physicians in Suzhou, 1600–1850'. 《中國文化研究所學報》 *Journal of Chinese Studies* no. 52, January.

Furth, Charlotte, and Angela Ki Che Leung, (eds), 2009. *Health and Hygiene in Chinese East Asia: Policies and Publics in the Long Twentieth Century.* Chapel Hill, NC: Duke University Press.

Garrett, Frances, 2006. 'Buddhism and the Historicising of Medicine in Thirteenth-Century Tibet'. *Asian Medicine: Tradition and Modernity,* 2(2): 204–224.

Gelfand, Toby, 1973. 'A Confrontation Over Clinical Instruction at the Hôtel-Dieu of Paris during the French Revolution', *Journal of the History of Medicine and Allied Sciences,* 28: 268–282.

———— 1980. *Professionalizing Modern Medicine: Paris Surgeons and Medical Science and Institutions in the Eighteenth Century.* Westport, Connecticut and London: Greenwood Press.

Gernet, Jacques, 1990 (trans. J. Lloyd). *China and the Christian Impact: A Conflict of Cultures.* Cambridge: Cambridge University Press.

Gernet, Jacques, Marc Kalinowski and Jean-Pierre Diény (eds), 1997. *En suivant la voie royale: mélanges en homage a Léon Vandermeersch*. Paris: Ecole française d'Extrême orient.

Gibbs, D.D., 1971. 'The Physician's Pulse Watch'. *Medical History,* 15(2): 187–190.

———— 1969. 'Sir John Floyer, M.D. (1649–1734)'. *British Medical Journal,* 1: 242–245.

Gilmore, Myron P., 1962. T*he World of Humanism,1453–1517*. New York: Harper.

Gleick, James, 2004. *Isaac Newton*. New York: Harper Perennial.

Goldschmidt, Asaf Moshe, 1999. *The transformations of Chinese medicine during the Northern Song dynasty (A.D. 960–1127): The integration of three past medical approaches into a comprehensive medical system following a wave of epidemics*. Doctoral dissertation, Ann Arbor: University of Pennsylvania.

———— 2009. *The Evolution of Chinese Medicine: Song Dynasty, 960–1200.* London: Routledge.

———— 2015. 'Reasoning with Cases: The Transmission of Clinical Medical Knowledge in Twelfth–Century Song China'. In: *Antiquarianism, Language, and Medical Philology, From Early Modern to Modern Sing–Japanese Medical Discourse,* B. Elman, (ed.). Leiden/Boston: Brill, 19–51.

Golinski, Jan, 2004. 'Shaw, Peter (1694–1763)'. In: *Oxford Dictionary of National Biography*, online edn, David Cannadine (ed.). Oxford: Oxford University Press. Accessed 13 Sept. 2017.

Golvers, Noël, 2003. *Ferdinand Verbiest, S.J. (1623–1688) and the Chinese Heaven: The composition of the Astronomical Corpus, its Diffusion and Reception in the Euroopean Republic of Letters.* Leuven: Leuven University Press.

———— 2012. '"Savant" Correspondence from China with Europe in the 17th and 18th centuries'. *Journal of Early Modern Studies*, 1(1), 21–42.

———— 2012. *Libraries of Western learning for China: Circulation of Western books between Europe and China in the Jesuit Mission (ca. 1650–ca.1750)*. Leuven: Ferdinand Verbiest Institute, KUL.

Graham, Angus, 1989. *Disputers of the Tao* (Illinois: Open Court). *SSJZS*, 325: 1301–02.

Graham, A.C., 2003. *Disputers of the Tao.* Illinois: Open Court Publishing Company.

Granshaw, Lindsay, 1992. 'The Rise of the Modern Hospital in Britain' in *Medicine in Society*, Wear, (ed.). Cambridge: Cambridge University Press, 197–218.

Granshaw, Lindsay Patricia and Porter, Roy, 1989. *The Hospital in History.* London; New York: Routledge.

Grant, Joanna, 2003. *A Chinese Physician: Wang Ji and the Stone Mountain Medical Case Histories.* London: RoutledgeCurzon.

Günergun, Feza, and Raina, Dhruv, (eds), 2011. *Science between Euroope and Asia: Historical Studies on the Transmission, Adoption and Adaptation of Knowledge.* Heidelberg, London, New York: Springer Science + Business Media B.V.

Guy, R. Kent, 1987. *The Emperor's Four Treasuries: Scholars and the State in the Late Ch'ien–lung Era.* Cambridge, MA: Harvard University Press.

Haller, J.S. Jr, 1982. 'The foul tongue: A 19th cenury index of disease (History of Medicine)'. *Western Journal of Medicine,* 137: 258–264.

Hammer, Leon I., 2005. *Chinese Pulse Diagnosis: A Contemporary Approach.* Seattle: Eastland Press.

Hannaway, Caroline, and Ann La Berge, (eds) 1998. *Constructing Paris Medicine.* Amsterdam and Atlanta, GA.: Editions Rodopi B.V.

Hanson, Marta, 1997. *Inventing a Tradition in Chinese Medicine: From Universal Canon to Local Medical Knowledge in South China, The Seventeenth to the Nineteenth Century.* Ph.D. dissertation, History and Sociology of Science, University of Pennsylvania.

———— 2003. The Golden Mirror in the Imperial Court of the Qianlong Emperor. *Early Science and Medicine* 8(2): 111–147.

———— 2006. 'Northern Purgatives, Southern Restoratives: Ming Medical Regionalism'. In: *Asian Medicine: Tradition and Modernity,* vol.2 (no.2). Leiden: Brill.

———— 2011. *Speaking of Epidemics in Chinese Medicine: Disease and the Geographic Imagination in Late Imperial China.* New York: Routledge.

———— 2013. 'Transformations of the Treatise on Cold Damage in East Asia'. *Asian Medicine*: *Tradition and Modernity,* 8.2.

Hanson, Marta and Gianna Pomata, 2017. 'Medicinal Formulas and Experiential Knowledge in the Seventeenth–Century Epistemic Exchange between China and Europe'. *Isis*, 108, no.1 (March): 1–25.

Harper, Donald, 1998. *Early Chinese Medical Literature: The Mawangdui Medical Manuscripts.* Sir Henry Wellcome Asian Series, vol. 2. London: Kegan Paul.

———— 2010. 'Iatromancy, Diagnosis, and Prognosis in Early Chinese Medicine'. In: *Innovation in Chinese Medicine,* E. Hsu, (ed.). Cambridge: Cambridge University Press, 99–120.

———— 2005. 'Dunhuang Iatromantic Manuscripts: P. 2856 R° and P. 2675 V°'. In: *Medieval Chinese Medicine: The Dunhuang Medical Manuscripts,* V. Lo and C. Cullen, (eds). London: RoutledgeCurzon, 134–164.

Hartwell, Robert M., 1982. 'Demographic, Political, and Social Transformations of China, 750–1550'. *Harvard Journal of Asiatic Studies* 42(2): 365–442.

Haskins, Charles H., 1924. *Studies in the History of Mediaeval Science.* Cambridge, MA: Harvard University Press.

Heinrich, Larissa N., 2008. *The Afterlife of Images: Translating the Pathological Body between China and the West.* Durham: Duke University Press.

Heilbron, John L., (ed.), 2003. *The Oxford Companion to the History of Modern Science.* Oxford: Oxford University Press.

Hertroijs, Frasie, 2011. *Meeting the Dutch: cooperation and conflict between Jesuits and Dutch merchants in Asia, 1680–1795.* Paper presented at ENIUGH conference. London, 14–17 April.

Hinrichs, TJ., 1998. 'New Geographies of Chinese Medicine. *Osiris',* 2nd Series 13: 287–325.

———— 2003. 'The Medical Transforming of Governance and Southern Customs in Song China (960–1279 CE)'. Ph.D. dissertation, History and East Asian Languages, Harvard University.

———— 2011. 'Governance through Medical Texts and the Role of Print'. In: *Transmission and Transformation of Knowledge in China, Tenth-Fourteenth Centuries,* L. Chia and H.D. Weerdt, (eds). Leiden: Brill, 217–238.

———— and Linda Barnes (eds), 2013. *Chinese Medicine and Healing.* Cambridge, MA and London: Belknap Press of Harvard University Press.

Ho Ping-ti, 1962. *The Ladder of Success in Imperial China: Aspects of Social Mobility, 1368–1911.* New York: Columbia University Press.

Hobsbawm, Eric, and Terence Ranger, (eds), 1983. *The Invention of Tradition.* Past and Present Publications. Cambridge: Cambridge University Press.

Holroyde-Downing, Nancy, 2005. 'Mysteries of the Tongue'. *Asian Medicine, Tradition and Modernity*, 1(2): 432–461.

———— 2015. 'Diagnostic Techniques of Chinese Medical Traditions and their Interface with the Globalization of Medical Practice'. In: *Disease, Religion and Healing in Asia*, Vargas-O'Bryan and Zhou, (eds). Abingdon: Routledge.

Hook, Derek, 2001. 'Discourse, knowledge, materiality, history: Foucault and discourse analysis'. *Theory and Psychology,* 11(4): 521–547.

Hopkins, A.G., (ed.) 2002. *Globalization in World History.* London: Pimlico.

Horstmanshoff, Manfred, Helen King, Claus Zittel, (eds), 2012. *Blood, Sweat and Tears – The Changing Concepts of Physiology from Antiquity into Early Modern Europe*. Leiden: Brill.

Howson, Colin, (ed.), 1976. *Method and appraisal in the Physical Sciences, The Critical Background to Modern Science, 1800–1905*. Cambridge: Cambridge University Press, 182–184.

Hsia, Adrian, (ed.), 1998. *The Vision of China in the English Literature of the Seventeenth and Eighteenth Centuries*. Hong Kong: The Chinese University press.

Hsu, Elisabeth, 1999. *The Transmission of Chinese Medicine.* Cambridge: Cambridge University Press.

———— 2000a. 'Towards a Science of Touch, Part I: Chinese Pulse Diagnostics in Early Modern Europe'. *Anthropology and Medicine,* 7: 251–268.

———— 2000b. 'Towards a Science of Touch, Part II: Representations of the Tactile Experience of the Seven Chinese Pulses Indicating Danger of Death in Early Modern Europe'. *Anthropology and Medicine,* 7: 319–33.

———— (ed.), 2001. *Innovation in Chinese Medicine.* Cambridge: Cambridge University Press.

———— 2010. *Pulse Diagnosis in Early Chinese Medicine.* Cambridge: Cambridge University Press.

Hucker, Charles O., 1985. *A Dictionary of Official Titles in Imperial China.* Stanford, CA: Stanford University Press.

Hummel, Arthur W., (ed.), 1943/1944. *Eminent Chinese of the Ch'ing Period, 1644–1912*. Washington: U.S. Government Printing Office.

Hurston, Zora Neale, 1937. *Their Eyes Were Watching God*. Urbana and Chicago: University of Illinois Press.

Hussein-Farzeen, Baldrian, 2004. 'The Book of the Yellow Court: A Lost Song Commentary of the 12th Century'. *Cahiers d'Extreme-Asie*, vol. 14, In Memoriam Isabelle Robinet (1932–2000). Pensée taoïste Alchimie et colsmolgie, sous la direction de Monica Esposito et Huber Durt, 187–226.

Hwang Kwang-Kui, 1999. 'Two Types of Social Identification in Confucianism'. *Asian Journal of Social Psychology*, 2: 163–183.

Hymes, Robert P., 1987. 'Not Quite Gentlemen? Doctors in Sung and Yuan'. *Chinese Science* 8 (January): 9–76.

Hymes, Robert P., and Conrad Shirokauer, (eds), 1993. *Ordering the World: Approaches to State and Society in Sung Dynasty China.* Berkeley: University of California Press.

Jackson, Mark, (ed.), 2013. *The Oxford Handbook of the History of Medicine*. Oxford: Oxford University Press.

Jewson, Nicholas D., 1974. 'Medical Knowledge and the Patronage System in 18th Century England', *Sociology* 8: 369–383.

———— 1976. 'The Disappearance of the Sick-Man from Medical Cosmology, 1770–1870.' *Sociology* 10: 225–244.

Jian Shu-De, 2005, (trans. Damone, Bob, Michael Helme, Lynn Kuchinski, Craig Mitchell, and Nigel Wiseman). *Ten Lectures on the Use of Formulas from the Personal Experience of Jiao Shu-De*. Taos NM: Paradigm Publications.

Johnson, Wallace, 1995. Status and Liability for Punishment in the T'ang Code. *Chicago-Kent Law Review*, 71(1): 271–229.

Jones, Caroline A. and Peter Galison, (eds), 1998. *Picturing Science Producing Art*. London and New York: Routledge.

Jullien, François, 1995, (trans. J. Lloyd). *The Propensity of Things: Toward a History of Efficacy in China*. New York: Zone.

Kajdanski, Edward, 1987. 'Michael Boym's *Medicus Sinicus*. *T'oung Pao LXIII*. Leiden: Brill. Second Series, vol. 73, Livr. 4/5, 161–189. is this book 4/5

Kalinowski, Marc, 2005. 'Mantic Texts in Their Cultural Context'. In: *Medieval Chinese Medicine: The Dunhuang Medical Manuscripts,* Lo and Cullen, (eds). Abingdon: RoutledgeCurzon, 109–133.

Kaptchuk, Ted J., 1983. *The Web That Has No Weaver: Understanding Chinese Medicine.* New York: Congdon and Weed.

Kassell, Lauren, 2014. 'Casebooks in Early Modern England: Medicine, Astrology and Written Records'. *Bulletin of the History of Medicine*, Winter; 88(4): 5 95–625.

Kauz, Ralph, (ed.), 2010. *Aspects of the Maritime Silk Road: From the Persian Gulf to the East China Sea.* Wiesbaden: Harrasowitz Verlag.

Kearney, Milo, 2004. *The Indian Ocean in World History.* New York and London: Routledge.

Keightley, David, 1978. *Sources of Shang History: The Oracle-Bone Inscriptions of Bronze Age China.* Berkeley: University of California, Berkeley.

———— 1987. 'Astrology and Cosmology in the Shang Oracle-Bone Inscriptions'. *Cosmos* 3: 36–40.

———— (Rosemont, H., (ed.), 2014. *These Bones Shall Rise Again*. New York: SUNY Press.

Keegan, David, 1988. 'The "Huang-ti nei-ching": the structure of the compilation, the significance of the structure'. PhD thesis, Berkeley: University of California.

Kiple, Kenneth F., (ed.), 1993. *Cambridge World History of Human Diseases*. Cambridge: Cambridge University Press.

Kirschbaum, Barbara, 2003. *Atlas of Chinese Tongue Diagnosis*, vol. 2. Seattle: Eastland Press.

Kleeman, Terry, 1998. *Great Perfections: Religion and Ethnicity in a Millennial Kingdom*. U of Hawaii.

Kleinman, Arthur, 1995. *Writing at the Margin: Discourse between Anthropology and Medicine.* Berkeley: University of California Press.

———— 1980. *Patients and Healers in the Context of Culture: An Exploration of the Borderland between Anthropology, Medicine and Psychiatry.* Berkeley, CA: University of California Press.

Knoblock, John and Jeffrey Riegel, trans and (eds), 2001. *The Annals of Lu Buwei*. Stanford CA: Stanford University Press.

Kobayashi, Hiromitsu and Sabin, Samanth, 1981. 'The Great Age of Anhui Printing'. In: *Shadows of Mt. Huang: Chinese Painting and Printing of the Anhui school*, J. Cahill, (ed.). Berkeley: University of California Press, 25–32.

Kundera, Milan, 1999, (trans. Linda Archer). *Identity: A Novel*. London: Faber and Faber, Ltd.

Kuriyama, Shigehisa, 1999. *The Expressiveness of the Body and the Diverence of Greek and Chinese Medicine.* New York: Zone Books.

Laamann, Lars Peter, 2000. *The Inculturation of Christianity in Late Imperial China, 1724–1840*. PhD dissertation. London: SOAS, University of London.

La Berge, Anne and Mordechai Feingold, (eds) 1994. *French Medical Culture in the Nineteenth Century*. Amsterdam and Atlanta: Rodopi.

Lagerwey, John and Pierre Marsone, (eds) 2015. *Modern Chinese Religion I* (2 vols): *Song-Liao-Jin-Yuan (960–1368 AD)*. Leiden, Boston: Brill.

Lamb, H.H., 1977. *Climate: Past, Present and Future.* London: Metheun &Co.Ltd.

Lane, Hilary J., Nava Blum, and Elizabeth Fee, 2010. 'Oliver Wendell Holmes (1809–1894) and Ignaz Philipp Semmelweis (1818–1865): Preventing the Transmission of Puerperal Fever'. *American Journal of Public Health,* 100.6: 1008–1009.

Langlois, John D. Jr., 1976. In: *Dictionary of Ming Biography, 1368–1644,* Goodrich, L.C. and Fang, C. (eds). New York: Columbia University Press.

Latour, Bernard, 1993, (trans. Catherine Porter). *We Have Never Been Modern*. Cambridge, MA: Harvard

University Press.

Lawrence, Christopher, 1985. 'Incommunicable Knowledge: Science, Technology and the Clinical Art in Britain 1850–1914', *Journal of Contemporary History*, 20, 4, 503–20.

———— 1994. *Medicine in the Making of Modern Britain 1700–1920*. London: Routledge.

Lawrence, Christopher and Steven Shapin, 1998. *Science Incarnate: Historical Embodiments of Natural Knowledge*. Chicago: University of Chicago Press.

Lee, Thomas, 1985. *Government Education and Examinations in Sung China.* Hong Kong: The Chinese University Press.

Legaye J., 2014. 'Medical education under the Revolution and the Empire', *History of Science and Medicine*, Jul-Sep; 48(3): 397–404.

Le Gobien *et al.* (eds), 1979. *Lettres edifiantes et curieuses de Chine ecrites par des missionnaires jesuites 1702–1776,* Paris: Garnier-Flammarion.

Lei, Sean Hsiang-Lin, 2014. *Neither Donkey nor Horse, Medicine in the Struggle Over China's Modernity*. Chicago and London: University of Chicago Press.

Lessell, Colin B, 2006. *Bibliotheca medica de Asia orientali, 1473–1900*. London: Samphire Press.

Leung, Angela Ki Che, 1987. 'Organized Medicine in Ming-Qing China: State and Private Medical Institutions in the Lower Yangzi Region'. *Late Imperial China* 8(1): 134–166.

———— 2003a. 'Medical Instruction and Popularization in Ming-Qing China'. *Late Imperial China* 24(1): 130–152.

———— 2003b. 'Medical Learning from the Song to the Ming'. In: *The Song-Yuan-Ming Transition in Chinese History,* P.J. Smith and R. von Glahn, (eds). Harvard East Asian Monographs, vol. 221. Cambridge, MA: Harvard University Asia Center, 374–512.

———— 2013. 'The Yuan and Ming Periods'. In: *Chinese Medicine and Healing: An Illustrated History,* Hinrichs, T.J. and Linda L. Barnes, (eds). Cambridge, MA: Harvard University Press, 129–159.

Leung, Angela Ki Che and Charlotte Furth, (eds), 2010. *Health and Hygiene in Chinese East Asia: Policies and Publics in the Long Twentieth Century.* Durham NC: Duke University Press.

Levin, Laura, 2009. 'Review essay'. *Photography & Culture*, 2(3): 327–336.

Lewis, Mark Edward and Timothy Brook, 2009. *China's Cosmopolitan Empire, the Tang Dynasty.* Cambridge, MA: Belknap Press of Harvard University Press.

Li Bozhong, 2003. 'Was There a Fourteenth-Century Turning Point? Population, Land, Technology, and Farm Management'. In: *The Song-Yuan-Ming Transition in Chinese History*, Smith, Paul *et al.*, (eds). Cambridge, MA: Harvard University Press, 135–175.

Li Jianmin, 2008. '*They Shall Expel Demons:* Etiology, the Medical Canon and the Transformation of Medical Techniques before the Tang'. In: *Early Chinese Religion: Part One: Shang through Han (1250 BC–220 AD)*, Lagerwey and Kalinowski, (eds). Leiden: Brill.

Li Ли, Min Минь and L. P. Churilov Л. П. Чурилов, 2014. 'Kitayskiye rukopisi i staropechatnyye knigi po meditsine v fondakh Vostochnogo otdela nauchnoy biblioteki imeni M. Gor'kogo Sankt-Peterburgskogo gosudarstvennogo universiteta Китайские рукописи и старопечатные книги по

медицине в фондах Восточного отдела научной библиотеки имени М. Горького Санкт-Петербургского государственного университета', *Vestnik Sankt-Peterburgskogo Universiteta Вестник Санкт-Петербургского Университета*, 2(11): 259–277.

Li Peilin, 2012. *Chinese Society: Change and Transformation*. New York: Routledge.

Li Xueqin and Xing Wen, 2001. 'New Light on the Early-Han Code: A Reappraisal of the Zhangjiashan Bamboo-slip Legal Texts'. *Asia Major,* xiv(1).

Liang Rong 梁嵘, 2006. '清代瘟病醫案488例的舌象分析 *Qingdai wenbing yi'an 488 lide shexiang fenxi'* (An Analysis of Tongue Images in 488 Cases of Warmth Factor Disease). *Chinese Medical Journal* 36 vol. 3, 131–134.

Lightman, Bernard, Gordon McOuat, and Larry Steward, (eds), 2013. *The Circulation of Knowledge Between Britain, India and China*. Leiden: Brill.

Lin Fu-shih 林富士, 2015. '"Old Customs and New Fashions": An Examination of Shamanism in Song China'. In: *Modern Chinese Religion 1 (2 vols): Song-Liao-Jin-Yuan (960–1368)*, Lagerwey, John and Marsone, Pierre (eds), (trans. Powers, Kimberly). Leiden and Boston: Brill, 229–281.

Lindemann, Mary, 1999 (2nd edn 2013). *Medicine and Society in Early Modern Europe.* Cambridge: Cambridge University Press.

Liu Chinian and Chen Ping, 1999. *Well-Known Formulas and Modified Applications, (*Advanced TCM Series, vol. 5). Bejing: Science Press, Amsterdam: IOS Press, Tokyo: Ohmsha.

Liu Guohui, 2005. *Warm Pathogen Diseases: A Clinical Guide.* Seattle: Eastland Press.

———— 2015. *Foundations of Theory for Ancient Chinese Medicine: Shang Han Lun and Contemporary Medical Texts*. London and Philadelphia: Singing Dragon.

Liu James T. C., 1973. 'How Did a Neo-Confucian School Become the State Orthodoxy?' *Philosophy East and West*, 23(4): 483–505.

Liu JeeLoo, 2017. *Neo-Confucianism: Metaphysics, Mind and Morality.* Hoboken NJ: John Wiley & Sons, Inc.

Liu Wansu, 劉完素, 1991, *Formulas from the Discussion Illuminating the Yellow Emperor's Basic Questions (Huangdi suwen xuanming lunfang* 黃帝素問宣明論方). Shanghai:Shanghai Ancient Literature Publishing House.

———— 1991. *Suwen bingji qiyi baoming ji* 素問病機氣宜保命集 (Collection of Writings on the Mechanism of Disease, Suitability of Qi, and the Safeguarding of Life as Discussed in Basic Questions). Shanghai 上海: Shangwu yinshuguan 商務印書館.

———— 2012. *Suwen bingji qiyi baomingji* 素问病机气宜保命集. Beijing 北京: Zhongguo yiyao keji chubanshe 中国医药科技出版社.

Lloyd, Geoffrey and Nathan Sivin, 2002. *The Way and the Word: Science and Medicine in Early China and Greece.* New Haven: Yale University Press.

Lo, Vivienne 羅維前, 2001. 'Huangdi Hama Jing (Yellow Emperor's Toad Canon)'. *Asia Major* 14(2): 61–100.

———— 2002. 'Spirit of Stone: Technical Considerations in the Treatment of the Jade Body'. *Bulletin*

of the School of Oriental and African Studies 65: 99–128.

———— 2003. 'The Territory between Life and Death'. Essay review, *Medical History*, 47: 250–258.

———— 2007. 'Imagining Practice: Sense and Sensuality in Early Chinese Medical Illustration'. In: *Graphics and Text in the Production of Technical Knowledge in China: The Warp and the Weft,* F. Bray, V. Dorofeeva-Lictmann, and G. Métailié, (eds). Leiden: Brill, 383–423.

———— 2009. 'But is it [History of] Medicine? Twenty Years in the History of the Healing Arts of China'. *Social History of Medicine,* 22(2): 283–303.

Lo, Vivienne, and Christopher Cullen, (eds), 2005. *Medieval Chinese Medicine: The Dunhuang Medical Manuscripts.* London: RoutledgeCurzon.

Lo, Vivienne, and Zhiguo He 何志國, 1996. The Channels: A Preliminary Examination of a Lacquered Figurine from the Western Han Period. *Early China,* 21: 81–123.

Lo, V., Berlekamp, P., Wang, Y., 2015. 'Administering Art, History, and Science in the Mongol Empire'. In: *Pearls on String: Artists, Patrons, and Poets at the Great Islamic Courts*. Walters Art Museum and University of Washington Press.

Loewe, Michael, (ed.), 1993. *Early Chinese Texts: A Bibliographical Guide*. Berkeley CA: University of California Press.

———— 1997. 'The Physician Chunyu Yi and His Historical Background'. In: *En suivant La voie royale: mélanges en hommage à Léon Vandermeersch*. Jacques Gernet *et al.*, (eds). Paris: École francaise d'Extrême-Orient, 297–313.

———— 2004. *The Men Who Governed China in Han Times.* Leiden: Brill.

———— 2011. *Dong Zhongshu, a 'Confucian' Heritage and the Chunqiu Fanlun*. Leiden: Brill.

Loewe, Michael, and Edward L. Shaughnessy, (eds), 1999. *The Cambridge History of Ancient China: From the Origins of Civilization to 221 B.C.* Cambridge: Cambridge University Press.

Long, Pamela O., 2012. 'Technological Transmission in China and Europe: A Comparative View'. In: *Cultures of Knowledge: Technology in Chinese History,* Schäfer, (ed.). Leiden: Brill, 75–84.

Loudon, Irvine, 1985. 'The Nature of Provincial Medical Practice in Eighteenth-Century England'. *Medical History,* 1985, 29: 1–32,

———— 1992, 'Medical practitioners 1750–1850 and the period of medical reform in Britain'. In: *Medicine in Society,* Wear, (ed.). Cambridge: Cambridge University Press, 219–247.

Lynes, Barbara B., 1999. *Georgia O'Keefe Catalogue Raisonne*. New Haven: Yale University Press.

Maciocia, Giovanni, 1995. *Togue Diagnosis in Chinese Medicine.* Seattle: Eastland Press.

Maddocks, Fiona, 2013. *Hildegard of Bingen: The Woman of Her Age.* London: Faber and Faber.

Mathee, R., 1999. *The Politics of Trade in Safavid Iran, Silk for Silver 1600–1730*. Cambridge: Cambridge University Press.

Mauss, Marcel, 1950, 1972 (trans. Robert Brain). *A General Theory of Magic*. Abingdon: Routledge and Keegan Paul.

Mazumdar, Sucheta, 1998. *Sugar and Society in China: Peasants, Technology and the World Market*.

Cambridge, MA and London: Harvard University Asia Center and Harvard University Press.

McDermott, Joseph, 2005. 'The Ascendance of the Imprint in China'. In: *Printing and Book Culture in Late Imperial China.* Brokaw, Cynthia J. and Chow, Kai-Wing, (eds). Berkeley: University of California Press.

McMenemy, W.H., 1964. 'The Hospital Movement of the Eighteenth Century and its Development'. In: *The Evolution of Hospitals in Britain,* Poynter, (ed.). London: Pitman Medical Publishing Co., Ltd. 43–71.

Millward, James A., 2013. *The Silk Road: A Very Short Introduction.* Oxford: Oxford University Press.

Mitchell, Craig, Feng Ye and Nigel Wiseman, (eds), 1999. *Shang Han Lun: On Cold Damage.* Brookline, MA: Paradigm Publications.

Mitchell, James, 1977/1978. 'James Nihell, M.D., F.R.S.' *Journal of the Galway Archaeological and Historical Society,* 36: 43–55.

Mitchell, W.T.J., 1994 [2nd edn]. Landscape and Power. Chicago: University of Chicago Press.

book?

Miyashita, Saburō 宮下三郎, 1979. 'Malaria (yao) in Chinese Medicine during the Chin and Yüan Periods'. *Acta Asiatica* 36 (September): 90–112.

———— 1986. 'A Historical Analysis of Chinese Formularies and Prescriptions: Three Examples', in *History of Traditional Medicine. Proceedings of the 1st and 2nd International Symposia on the Comparative History of Medicine - East and West*, Teizo Ogawa, (ed.). Tokyo: Taniguchi Foundation, 101–116.

Müller-Wille, Staffan, 2013. 'History of Science and Medicine'. In: *The Oxford Handbook of the History of Medicine,* Jackson, (ed.). Oxford: Oxford University Press.

Mungello, D.E., 1989. *Curious Land: Jesuit Accommodation and the Origins of Sinology*. Honolulu: University of Hawaii Press.

———— 2013. *The Great Encounter of China and the West, 1500–1800.* Lanham, MD: Rowman and Littlefield Publishers.

Nance, Brian K., 1993. 'Determining the Patient's Temperament: An Excursion into Seventeenth Century Medical Semeiology'. *Bulletin of the History of Medicine*, 67: 417–438.

Napi, Carla, 2009. *The Monkey and the Inkpot: Natural History and Its Transformations in Early Modern China.* Cambridge, MA: Harvard University Press.

Needham, Joseph, 2000, 2nd edn 2004. *Science and Civilization in China*: volume 6 *(Biology and Biological Technology),* Part VI *(Medicine)*. Cambridge, UK: Cambridge University Press.

Needham, Joseph and Tsien Tsuen-Hsuin, 2001. *Science and Civilisation in China*: volume 5 *(Chemistry and Chemical Technology)* Part 1 *(Paper and Printing.* Cambridge: Cambridge University Press.

Ng, Margaret Wee Siang, 2013. Doctoral dissertation. *Male Brushstrokes and Female Touch: Medical Writing and Childbirth in Imperial China.* Montreal: McGill University.

Nicolson, Malcolm, 1993. 'The Art of Diagnosis: Medicine and the Five Senses'. In: *Companion Encyclopedia*, Bynum and Porter, (eds), vol. II, 801–825.

Nienhauser, William H., (ed.), 2010. *The Grand Scribe's Records*, vol. ix, part ii, *The Memoirs of Han*

China, Ssu-ma Ch'ien. Bloomington: Indiana University Press.

Nishijima, S., 1984. 'The Formation of the Early Chinese Cotton Industry'. In: *State and Society in China: Japanese Perspectives on Ming-Qing Social and Economic History*, Grove, L. and Daniels, C., (eds). Tokyo: University of Tokyo Press, 17–77.

Nutton, Vivian, 1995a. 'Medicine in the Greek World, 800–50 BC', 'Roman Medicine, 250 BC to AD 200', and 'Medicine in Late Antiquity and the Early Middle Ages'. In: T*he Western Medical Tradition 800 BC to AD 1800*, Conrad *et al.*, (eds). Cambridge: Cambridge University Press.

———— 2003. Encyclopaedic entries on: Galenism, William Harvey and Andreas Vesalius. In: T*he Oxford Companion to the History of Modern Science,* Heilbron, John L., (ed.). Oxford: Oxford University Press.

———— [2004] 2013. *Ancient Medicine*. Abingdon: Routledge.

———— 2017. 'Pieter Van Foreest: The Physician as Writer on Surgery'. *Journal of the History of Medicine and Allied Sciences,* 72(1): 87–97.

Nutton, Vivian, and Roy Porter, 1995. *The History of Medical Education in Britain*. Amsterdam: Rodopi; Brill.

Nylan, Michael and Loewe, Michael, (eds), 2013. *China's Early Empires: A Re-appraisal*. Cambridge: University of Cambridge Oriental Publications.

O'Boyle, Cornelius, 1998. *The Art of Medicine: Medical Teaching at the University of Paris, 1250–1400.* Leiden: Brill.

Obringer, Frédéric, 2001. 'A Song Innovation in Pharmacology'. In: *Innovation in Chinese Medicine.* E. Hsu, (ed.). Needham Research Institute Studies, vol. 3. Cambridge: Cambridge University Press, 192–213.

O'Connor, John and Dan Bensky, 1981. *Acupuncture: A Comprehensive Text*. Seattle WA: Eastland Press.

O'Malley, C.D., 1964. *Andreas Vesalius of Brussels 1514–1564*. Berkeley and Los Angeles: University of California Press.

O'Neal, John C., 1998. 'Auenbrugger, Corvisart, and the Perception of Disease.' *Eighteenth-Century Studies,* 31(4): 473–489.

Pachter, Henry M., 2007. *Magic Into Science – the Story of Paracelsus.* La Vergne, TN: Sumner Press.

Parker, Geoffrey., 2013. *Global Crisis: War, Climate Change and Catastrophe in the Seventeenth Century.* New Haven and London: Yale University Press.

Parthesius, Robert, 2010. *Dutch Ships in Tropical Waters: the Development of the Dutch East India Company (VOC) Shipping Network in Asia, 1595–1660*. Amsterdam: Amsterdam University Press.

Pelliot, Paul, 1935. 'Michel Boym'. *T'oung Pao XXXI.* Second Series, vol. 31, Livr. 3/5: 274–314.

Perkins, D. 2013. *Agricultural Development in China, 1368–1968*. London: Aldine Transaction.

Pomata, Gianna, 2005. 'Praxis Historialis: The Use of Historia in Early Modern Medicine'. In: *Historia: Empiricism and Erudition in Early Modern Europe*, Gianna Pomata and Nancy G. Siraisi (eds). Cambridge, MA: MIT Press, 105–146.

Porter, Roy, 1989. *Health for Sale. Quackery in England 1660–1850*. Manchester: Manchester University

Press.

———— (ed.), 2006. *The Cambridge History of Medicine*, Cambridge: Cambridge University Press.

Poynter, Frederick N.L., (ed.), 1964. *The Evolution of Hospitals in Britain*. London: Pitman.

Ptak, Roderich, 1998. *China and the Asian seas: Trade, travel and visions of the others (1400–1750).* Aldershot: Ashgate Variorum.

———— 1998. *China and the Asian seas: Trade, travel and visions of the others (1400–1750).* Aldershot: Ashgate Variorum.

———— 1999. *China's Seaborne Trade with South and Southeast Asia, 1200–1750*. Aldershot: Ashgate.

———— 2003. *China, the Portuguese, and the Nanyang: Oceans and Routes, Regions and Trade (c. 1000–1600),* Aldershot: Ashgate Variorum.

Puett, Michael J., 2000. 'Violent Misreadings: The Hermeneutics of Cosmology in the Huainanzi'. Special Issue: Reconsidering the Correlative Cosmology of Early China, *Bulletin of the Museum of the Far Eastern Antiquities,* 72: 45.

———— 2002. *To Become a God: Cosmology, Sacrifice and Self-divinization in Early China.* Cambridge, MA and London: Harvard University Asia Center for the Harvard-Yenching Institute.

Raphals, Lisa, 1998. 'The Treatment of Women in a Second-century Medical Casebook'. *Chinese Science*, 15: 7–28.

———— 2011. 'Divination in the Han Shu Bibliographic Treatise'. *Early China,* 32(2008-2009): 286–287.

———— 2013. *Divination and Prediction in Early China and Ancient Greece.* Cambridge and New York: Cambridge University Press.

———— 2017 forthcoming 'Chinese Philosophy and Chinese Medicine'. In: *The Stanford Encyclopedia of Philosophy,* Edward N. Zalta (ed.).

Risse, Guenter B., 1977. 'Medical Care'. In: *Companion Encyclopaedia of the History of Medicine,* Bynum and Porter, (eds). Abingdon: Routledge, 45–77.

———— 1987. 'Hospital History: New Sources and Methods'. In: *Problems and Methods in the History of Medicine, 1750–1850,* Porter, R. and Wear, A. (eds). London: Croom Helm, 175–203.

———— 1992. 'Medicine in the Age of Enlightenment'. In: *Medicine in Society*, Wear, (ed.). Cambridge: Cambridge University Press.

Roberts, J.A.G., 2000. *China: Prehistory to the Nineteenth Century: An Illustrated History*. Stroud: Sutton.

Rodgers, Daniel T., Bhavani Raman and Helmut Reimitz, (eds), 2014. *Cultures in Motion.* Princeton and Oxford: Princeton University Press.

Rodrigue, Jean-Paul, Claude Comtois and Brian Slack, 2017. *The Geography of Transport Systems.* Oxford: Routledge.

Romano, Terrie M., 2002. *Making Medicine Scientific: John Burdon Sanderson and the culture of Victorian science.* Baltimore: Johns Hopkins University Press, 75–88.

Rowe, William T., 2012. 'Political and Economic Factors Affecting the Transmission of Technical

Knowledge in Early Modern China'. In: *Cultures of Knowledge: Technology in Chinese History*, Schäfer, (ed.), 25–44.

Rütin, Thomas, 2013, 'Early Modern Medicine'. In: *The Oxford Handbook of the History of Medicine,* Jackson (ed.). Oxford: Oxford University Press.

Salguero, C. Pierce, 2014. *Translating Buddhist Medicine in Medieval China*. Philadelphia PA: University of Pennsylvania Press.

Savage-Smith, Emilie, 2013. 'Were the Four Humours Fundamental to Medieval Islamic Medical Practice?'. In: *The Body in Balance: Humoral Theory in Practice*, E. Hsu and P. Horden, (eds). Oxford: Berghahn Books, 89–106.

Schäffer, Dagmar, 2011. *The Crafting of the 10,000 Things: Knowledge and Technology in Seventeenth Century China*. Chicago: University of Chicago Press.

———— (ed.), 2012. *Cultures of Knowledge: Technology in Chinese History.* Leiden, Boston: Brill.

Scheid, Volker, 2001. 'Forward.' In: *Warm Diseases: A Clinical Guide,* Guohui Liu. Seattle: Eastland Press, vii–x.

———— 2002. *Chinese Medicine in Contemporary China: Plurality and Synthesis*. Durham NC: Duke University Press.

———— 2004. 'Restructuring the Field of Chinese Medicine: A Study of the Menghe and Ding Scholarly Currents, 1600–2000 (Part 1)'. *East Asian Science, Technology, and Medicine* 22: 10–68.

———— 2005. 'Restructuring the Field of Chinese Medicine: A Study of the Menghe and Ding Scholarly Currents, 1600–2000 (Part 2)'. *East Asian Science, Technology and Society: An International Journal* 23: 79–130.

———— 2006. 'Chinese Medicine and the Problem of Tradition'. *Asian Medicine,* 2(1]: 59–71.

———— 2007. *Currents of Tradition in Chinese Medicine: 1626–2006.* Seattle: Eastland Press.

———— 2011. 'Patterns, Syndromes and Types: Who should we be and what should we do?'. *European Journal of Oriental Medicine,* 7(3): 10–21.

———— 2013. 'The *Treatise on Cold Damage* as a Window on Emergent Formations of Medical Practice in East Asia'. *Asian Medicine,* 8(2): 295–298.

Scheid, Volker, Dan Bensky, Andrew Ellis and Randall Barolet, (eds and trans.), 2009, (2nd edn). *Chinese Herbal Medicine, Formulas and Strategies*. Seattle: Eastland Press.

Schivelbusch, Wolfgang, 1992. *Tastes of Paradise*. New York: Pantheon.

Schnorrenberger, Claus C. and Beate Schnorrenberger. 2011. *Pocket Atlas of Tongue Diagnosis*, 2nd edn. Stuttgart and New York: Thieme.

Sczensniak, Boleslaw. 1954. 'John Floyer and Chinese Medicine', *Osiris* 11: 27–156.

Selin, Helaine. 2003. *Medicine Across Cultures: history and practice of medicine in non-Western culture.* Dordrecht: Springer Science + Business Media.

Shinno, Reiko, 2016. *The Politics of Chinese Medicine Under Mongol Rule.* London: Routledge.

Shepherd, William, 1911. *Historical Atlas*. 'Medieval Commerce maps of Overland and Mediterranean Sea routes'; 'Age of Discovery, Overland maps 1340–1640'. New York: Henry Holt and Company, 98–99;

108–9.

Shorter, Edward, 1996. 'Primary Care'. In: *Cambridge Illustrated History of Medicine*, Porter, (ed.). Cambridge: Cambridge University Press, 118–145.

Singer, Charles, 1928. *From Magic to Science: Essays on the Twilight of Science.* London: Ernst Benn.

Siraisi, Nancy G., 2010. *History, Medicine and the Traditions of Renaissance Learning*. Ann Arbor: University of Michigan Press.

Sivin, Nathan, 1967. 'A seventh-century Chinese medical case history'. *Bulletin of the History of Medicine*, 41: 267–273.

———— 1968. *Chinese Alchemy: Preliminary Studies.* Cambridge, MA: Harvard University Press.

———— (trans.) 1987. *Traditional Medicine in Contemporary China. A Partial Translation of Revised Outline of Chinese Medicine* (1972). Ann Arbor: University of Michigan Press, Center for Chinese Studies.

———— 1988. 'Science and Medicine in Imperial China – The State of the Field'. *Journal of Asian Studies*, 47(1):41–90.

———— 1993. Huang ti nei ching 黃帝內經. In: *Early Chinese Texts: A Bibliographical Guide,* M. Loewe, (ed.). Early China Special Monograph Series, vol. 2. Berkeley: Society for the Study of Early China and the Institute of East Asian Studies, University of California, 196–215.

———— 1995a. *Medicine, Philosophy and Religion in Ancient China: Researches and Reflections.* Aldershot: Variorum.

———— 1995b. 'Text and Experience in Classical Chinese Medicine.' In: *Knowledge and the Scholarly Medical Traditions,* Don Bates, (ed.). Cambridge: Cambridge University Press, 177–204.

Sivin, Nathan, 1995c. 'State, Cosmos, and the Body in the Last Three Centuries'. *Harvard Journal of Asiatic Studies,* 55(1): 5–37.

———— (ed.), 2000. *Science and Civilisation in China, vol. 6, pt 6. Medicine*. Cambridge: Cambridge University Press.

Smerdon, Geoffrey, 1965. 'Four seventeenth-century Oxford medical eccentrics'. *Oxford Medical School Gazette,* 17: 5–14.

———— 1970. In: *Oxford medicine, Essays on the evolution of the Oxford Clinical School to commemorate the bicentary [*sic*] of the Radcliffe Infirmary, 1770–1970,* Dewhurst, Kenneth Eastham, (ed.). Oxford: Sandford Publications, 14–22.

Smith, Hilary, 2008. 'Foot Qi: History of a Chinese Medical Disorder'. Ph.D. dissertation, History and Sociology of Science, University of Pennsylvania.

Smith, Paul J., 2003. 'Introduction: Problematizing the Song-Yuan-Ming Transition'. In: *The Song–Yuan-Ming Transition in Chinese History*, Smith, Paul J. and Richard Von Glahn. Cambridge, MA: Harvard University Asia Center.

Smith, Paul J. and Richard Von Glahn, (eds), 2003. *The Song-Yuan-Ming Transition in Chinese History*. Cambridge, MA: Harvard University Asia Center.

Solos, Ioannis, 2013. *Gold Mirrors and Tongue Reflection*s. London and Philadelphia: Singing Dragon.

Spary, E.C., 2011. 'Health and Medicine in the Enlightenment'. In: *The Oxford Handbook of the History of Medicine*, Jackson, (ed.). Oxford: Oxford University Press.

Steinbeck, John, 1961. *The Winter of our Discontent.* London: Penguin Books Ltd.

Sterckx, Roel, 2002. *The Animal and the Daemon in Early China.* Albany: State University of New York Press.

Stolberg, Michael, 2007. 'The Decline of Uroscopy in Early Modern Learned Medicine (1500–1650)'. *Early Science and Medicine*; 12(3): 313–336.

———— [2015] 2016. *Uroscopy in Early Modern Europe*. Abingdon: Routledge.

Strehlow, Wighard and Hertzka, Gottfried, 1988 (trans. K. Strehlow). *Hildegard of Bingen's Medicine.* Santa Fe: Bear and Company.

Strickmann, Michel, 2002. *Chinese Magical Medicine.* Stanford, CA: Stanford University Press.

Taavitsainen, Irma and Päivi Pahta, 2000. 'Conventions of Professional Writing: The Medical Case Report in a Historical Perspective'. *Journal of English Linguistics*, 28: 60–76.

Talbot, Charles, 1970. 'Medical Education in the Middle Ages'. In: *The History of Medical Education: An International Symposium*, O'Malley, Charles Donald, (ed.). UCLA Forum in Medical Sciences, vol. 12. Berkeley: University of California Press.

Thompson, John D. and Goldin, Grace, 1975. *The Hospital: A Social and Architectural History*. New Haven: Yale University Press.

Thorley, J., 1971. 'The Silk Trade between China and the Roman Empire at Its Height, Circa A.D. 90–130'. *Greece and Rome*, 18(1): 71–80.

Throop, Priscilla, 1998. *Hildegard of Bingen, Physican: the complete translation of her work on health and healing.* Vermont: Healing Arts Press.

Townsend, Gary L., 1967. 'Sir John Floyer (1649–1734) and His Study of Pulse and Respiration'. *Journal of the History of Medicine and Allied Sciences,* 22(3): 286–316.

Tracy, James D., (ed.), 1990. *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350-1750.* Cambridge: Cambridge University Press.

Twitchett, Denis, 1983. *Printing and Publishing in Medieval China*. New York: Frederick F. Beil.

Twitchett, Dennis and Fairbanks, John K., (eds), 2013. *The Cambridge History of China*, vol. 6, *Alien Regimes and Border States 907–1368;* vol. 8, *The Ming Dynasty, 1368–1644*, pt 2. Cambridge: Cambridge University Press.

Twitchett, Denis, and Michael Loewe, (eds), 1986. *The Cambridge History of China,* vol. I*, The Ch'in and Han Empires, 221 B.C.–A.D. 220*. Cambridge: Cambridge University Press.

Twitchett, Denis and Frederick W. Mote, (eds), 1998. *The Cambridge History of China,* volume 8, *The Ming Dynasty, 1368–1644,* Part 2. Cambridge: Cambridge University Press.

Unschuld, Paul U., 1979. *Medical Ethics in Imperial China: A Study in Historical Anthropology.* Berkeley: University of California Press.

———— 1985. *Medicine in China: A History of Ideas.* Berkeley, CA: University of California Press.

———— 1986. *Medicine in China: A History of Pharmaceutics.* Berkeley, CA: University of California

Press.

———— (ed.), 1989. *Approaches to Traditional Chinese Medical Literature.* Dordrecht: Kluwer Academic Publishers.

———— 2000. *Medicine in China: Historical Artifacts and Images.* Munich: Prestel.

———— (ed.), 2003. *Huangdi Neijing Suwen: Nature, Knowledge, Imagery in an Ancient Chinese Medical Text.* Berkeley: University of California Press.

———— and Hermann Tessenow, in collaboration with Zheng Jinsheng, 2011. *Huang Di Nei Jing Su Wen: An Annotated Translation of Huang Di's Inner Classic – Basic Questions,* vols 1 and 2. Berkeley and Los Angeles, University of California Press.

———— 2016. *Nanjing: The Classic of Difficult Issues.* Oakland: University of California Press.

Van Boven, M. W., 2002. 'Towards A New Age of Partnership (TANAP): An Ambitious World Heritage Project (UNESCO Memory of the World). *VOC Archives* Appendix 2, p.14.

Vess, David, 1975. *Medical Revolution In France 1789–1796.* Gainesville, FL: University Presses of Florida.

Wang Shumin 王叔岷, 1983. *Shiji jiaozheng* 史記斠證 (Emendations to the Records of the Historian). Taipei 臺北: Zhongyang yanjiuyuan lishi yuyann yanjiusuo 中央研究院歷史語言研究所.

Wang Shumin 王叔岷 and Cullen, C., (trans.), 2005. The Dunhuang manuscripts and pharmacology in medieval China, in *Medieval Chinese Medicine, The Dunhuang medical manuscripts.* Abingdon and New York: RoutledgeCurzon.

Warner, John Harley. 1986. *The Therapeutic Perspective. Medical Practice, Knowledge, and Identity in America 1820–1883.* Cambridge, MA: Harvard University Press.

Watson, Burton, (trans.), 2007. *The Analects of Confucius*. New York: Columbia University Press.

Wear, Andrew, (ed.), 1992. *Medicine in Society, Historical Essays.* Cambridge: Cambridge University Press.

———— 2000. *Knowledge and Practice in English Medicine, 1550–1680*. Cambridge: Cambridge University Press.

———— 1995. 'Epistemology and Learned Medicine in Early Modern England'. In: *Knowledge and the Scholarly Medical Traditions,* Bates, (ed.). Cambridge: Cambridge University Press.

Weiner, Dora B., 1993. *The Citizen-Patient in Revolutionary and Imperial Paris*. Chicago: University of Chicago Press.

Wen Jian Min and Gary Seifert (trans.), 2000. *Warm Disease Theory: Wen Bing Xue.* Brookline, MA: Paradigm Publications.

White, Michael, 1998. *Isaac Newton: The Last Sorcerer*. London: Fourth Estate.

White, William I., 1991. 'A New Look at the Role of Urinalysis in the History of Diagnostic Medicine'. *Clinical Chemistry* 37: 119–125.

Whitfield, Susan, 2004. *The Silk Road: Trade, Travel, War and Faith.* London: British Library.

———— 2005 (2nd edn). *Life Along the Silk Road*. Oakland CA: University of California Press.

Wilkinson, Endymion, 1990. *The History of Imperial China, A Research Guide.* Cambridge, MA, London: Harvard University Press.

Wills, John E., 1985. 'Some Dutch Sources on the Jesuit China Mission 1662–1687'. *Archivum Historicum*

Societatis Jesu. 54: 267–294.

Wilms, Sabine, 2002. *The Female Body in Medieval China: A Translation and Interpretation of the 'Women's Recipes' in Sun Simiao's Beiji Qianjin Yaofang*. PhD dissertation University of Arizona.

Winterbottom, Anna, and Facil Tesfaye, (eds), 2016. *Histories of Medicine and Healing in the Indian Ocean World, The Modern Period,* vol. 2. New York: Palgrave Macmillan.

Wiseman, Nigel and Ye Feng, 1998. *A Practical Dictionary of Chinese Medicine*. Brookline, MA: Paradigm Publications.

Wiseman, Nigel and Sabine Wilms, (trans.), 2013. Zhang Zhongjing's *Jin Gui Yao Lue: Translation and Commentaries (Essential Prescriptions of the Golden Cabinet)*. Taos, NM: Paradigm Publications.

Wiseman, Nigel and Sabine Wilms (trans), 2013. *Zhang Zhongjing's* 'Jin Gui Yao Lue: Translation and Commentaries (Essential Prescriptions of the Golden Cabinet)'. Taos, NM: Paradigm Publications.

Wittern-Sterzel, Renate, 1999. 'Diagnosis: the doctor and the urine glass'. *The Lancet,* 354, SIV13.

Worboys, Michael, 2011. 'Practice and the Science of Medicine in the Nineteenth Century'. *Isis,* 102(1): 109–115.

Wu Pu 吳普, Xingyan Sun 星衍孫 and Fengyi Sun 馮翼孫, 1936 [?]. *Shennong bencao jing: [3 juan*] 甚濃本草經: [3卷]. Shanghai 上海: Zhonghua shuju 中華書局.

Wu Yiyi, 1994. 'A Medical Line of Many Masters: A Prosopographical Study of Liu Wansu and His Disciples from the Jin to the Early Ming'. *Chinese Science,* 11: 36–65.

Wu Yi-li, 2010. *Reproducing Women: Medicine, Metaphor, and Childbirth in Late Imperial China.* Berkeley, Los Angeles, London: University of California Press.

Xie Zhu-Fan 謝竹藩, 2002. *Classified Dictionary of Traditional Chinese Medicine* (new edn). Beijing: Foreign Languages Press.

Xie Zhu-Fan 謝竹藩 and Huang Xiaokai 黃孝楷, 1998. *Zhongyiyao Cidian* 中醫藥詞典 (Dictionary of Traditional Chinese Medicine). Hong Kong: The Commercial Press (Hong Kong) Ltd.

Xinbian zhongyi xuegai yao 新編中醫學概要 (Revised Outline of Chinese Medicine), 1972. Beijing: Renmin weisheng chubanshe 北京: 人民卫生出版社.

Xin Ying, and Guo Xiazhen, 2001. *Tongue Diagnosis: Traditional Chinese Medicine* (Chinese-English edition). Tianjin, China: Tianjin Science and Technology Translation Publishing Corporation.

Xu Dachun, 1990 (trans. P.U. Unschuld). *Forgotten Traditions of Ancient Chinese Medicine.* Brookline, MA: Paradigm.

Yang Shou-Zhong (trans.), 1993. *The Heart & Essence of Dan-xi's Methods of Treatment (Dan Xi Zhi Fa Xin Yao* 丹溪治法心要). Boulder: Blue Poppy Press.

———— 1998. *The Divine Farmer's Materia Medica: A Translation of the Shen Nong Ben Cao Jing.* Boulder, CO: Blue Poppy Press.

———— 2002. *The Pulse Classic, a translation of the Mai Jing of Wang Shu-he*. Boulder CO: Blue Poppy Press.

Yang Shou-zhong and Li Jian-yong, 1994. *Li Dong-yuan's Treatise on the Spleen and Stomach: A Translation of the Pi Wei Lun*. Boulder CO: Blue Poppy Press.

Zandvliet, Kees, 2007. 'Mapping the Dutch World Overseas in the Seventeenth Century'. In: *The History of Cartography, vol. iii,* David Woodward, (ed.). Chicago: University of Chicago Press.

Zeitlin, Judith T., 2007. 'The Literary Fashioning of Medical Authority: A Study of Sun Yikui's Case Histories'. In: *Thinking with Cases: Specialist Knowledge in Chinese Cultural History,* C. Furth, J.T. Zeitlin, and P.-C. Hsiung, (eds). Honolulu: University of Hawaii Press.

Zhan Mei, 2009. *Other-Worldly: Making Chinese Medicine through Transnational Frames.* Durham, NC: Duke University Press.

Zhang Binglun, 1996. 'A Preliminary Analysis of Scientific Developments and its Causes in Anhui Province During the Ming'. In: *Chinese Studies in the History and Philosophy of Science and Technology,* D. Fan, and R. Cohen, (eds). London: Kluwer Academic Publishers.

Zhang Jinfan, 2014 (trans. Zhang, Lixin). *The Tradition and Modern Transition of Chinese Law.* Heidelberg, New York, Dordrecht, London: Springer.

Zhang Zhibin, 張志斌, 2008. *'Wenyi lun' zhiqian mingdai wenbing lilun de chuangxin*《溫疫論》之前明代溫病理論的創新 (Innovations in the Theory of Epidemic Febrile Diseases in the Ming Dynasty Before 'Treatise on Febrile Epidemics', *Zhonghua yishi zazhi* 中華醫史雜誌 (*Chinese Journal of Medical History*), 38(4): 195–199.

Zhaoyang Zhang, 2010. 'Civil Laws and Civil Justice in Early China', PhD diss., University of California, Berkeley.

Zhou Ximin 周喜民 (ed.), 1994. *Jin Yuan sidajia yixue quanshu* 金元四大家醫學全書 (The Complete Medical Books of the Four Great Jin Yuan Masters). Tianjin kexue jishu chubanshe: Tianjin.

Zuo Zhuan, Zhao gong 1, reprint 1951 (trans. Couvreur, Séraphin). *Tch'ouen ts'ieu et Tso tschouan.* (La Chronique de la Principauté de Lou) [Chunqiu and Zuo zhuan, Chronicle of the State of Lu]. Ho kien Fou: Paris: Mission Catholique, vol. 3: 35.